SEQUENCE LISTING

<110>   Hoffmann-La Roche Inc.

<120>   RA antigenic peptides

<130>   21796

<160>   141

<170>   PatentIn version 3.2

<210>   1
<211>   14
<212>   PRT
<213>   Homo sapiens

<400>   1

Gly Asp Arg Gly Met Gln Leu Met His Ala Asn Ala Gln Arg
1   5   10

<210>   2
<211>   17
<212>   PRT
<213>   Homo sapiens

<400>   2

Gly Asp Arg Gly Met Gln Leu Met His Ala Asn Ala Gln Arg Thr Asp
1   5   10   15

Ala

<210>   3
<211>   16
<212>   PRT
<213>   Homo sapiens

<400>   3

Gly Asp Arg Gly Met Gln Leu Met His Ala Asn Ala Gln Arg Thr Asp
1   5   10   15

<210>   4
<211>   16
<212>   PRT
<213>   Homo sapiens

<400>   4

Ile Asn Asn Gln Leu Thr Leu Asp Ser Asn Thr Lys Tyr Phe His Lys

<210>   5
<211>   17
<212>   PRT
<213>   Homo sapiens

<400>   5

Ile Asn Asn Gln Leu Thr Leu Asp Ser Asn Thr Lys Tyr Phe His Lys
1   5   10   15

Leu

<210>   6
<211>   19
<212>   PRT
<213>   Homo sapiens

<400>   6

Met Pro Lys Asn Val Val Phe Val Ile Asp Lys Ser Gly Ser Met Ser
1   5   10   15

Gly Arg Lys

<210>   7
<211>   18
<212>   PRT
<213>   Homo sapiens

<400>   7

Met Pro Lys Asn Val Val Phe Val Ile Asp Lys Ser Gly Ser Met Ser
1   5   10   15

Gly Arg

<210>   8
<211>   17
<212>   PRT
<213>   Homo sapiens

<400>   8

Met Pro Lys Asn Val Val Phe Val Ile Asp Lys Ser Gly Ser Met Ser
1   5   10   15

Gly

<210> 9
<211> 14
<212> PRT
<213> Homo sapiens

<400> 9

Asn Val Val Phe Val Ile Asp Lys Ser Gly Ser Met Ser Gly
1   5   10

<210> 10
<211> 15
<212> PRT
<213> Homo sapiens

<400> 10

Lys Asn Val Val Phe Val Ile Asp Lys Ser Gly Ser Met Ser Gly
1   5   10   15

<210> 11
<211> 15
<212> PRT
<213> Homo sapiens

<400> 11

Asn Val Val Phe Val Ile Asp Lys Ser Gly Ser Met Ser Gly Arg
1   5   10   15

<210> 12
<211> 16
<212> PRT
<213> Homo sapiens

<400> 12

Asn Val Val Phe Val Ile Asp Lys Ser Gly Ser Met Ser Gly Arg Lys
1   5   10   15

<210> 13
<211> 15
<212> PRT
<213> Homo sapiens

<400> 13

Gly His Pro Gln Tyr Leu Leu Asp Ser Asn Ser Trp Ile Glu Glu
1   5   10   15

<210>   14
<211>   16
<212>   PRT
<213>   Homo sapiens

<400>   14

Gly His Pro Gln Tyr Leu Leu Asp Ser Asn Ser Trp Ile Glu Glu Met
1   5   10   15

<210>   15
<211>   14
<212>   PRT
<213>   Homo sapiens

<400>   15

Gly His Pro Gln Tyr Leu Leu Asp Ser Asn Ser Trp Ile Glu
1   5   10

<210>   16
<211>   18
<212>   PRT
<213>   Homo sapiens

<400>   16

Gly His Pro Gln Tyr Leu Leu Asp Ser Asn Ser Trp Ile Glu Glu Met
1   5   10   15

Pro Ser

<210>   17
<211>   13
<212>   PRT
<213>   Homo sapiens

<400>   17

His Pro Gln Tyr Leu Leu Asp Ser Asn Ser Trp Ile Glu
1   5   10

<210>   18
<211>   12
<212>   PRT
<213>   Homo sapiens

<400> 18

Gly His Pro Gln Tyr Leu Leu Asp Ser Asn Ser Trp
1   5   10

<210> 19
<211> 19
<212> PRT
<213> Homo sapiens

<400> 19

Gly Val Asp Arg Tyr Ile Ser Lys Tyr Glu Leu Asp Lys Ala Phe Ser
1   5   10   15

Asp Arg Asn

<210> 20
<211> 15
<212> PRT
<213> Homo sapiens

<400> 20

Arg Tyr Ile Ser Lys Tyr Glu Leu Asp Lys Ala Phe Ser Asp Arg
1   5   10   15

<210> 21
<211> 14
<212> PRT
<213> Homo sapiens

<400> 21

Ile Ser Lys Tyr Glu Leu Asp Lys Ala Phe Ser Asp Arg Asn
1   5   10

<210> 22
<211> 15
<212> PRT
<213> Homo sapiens

<400> 22

Ile Ser Lys Tyr Glu Leu Asp Lys Ala Phe Ser Asp Arg Asn Thr
1   5   10   15

<210> 23
<211> 13
<212> PRT

<213> Homo sapiens

<400> 23

Ile Ser Lys Tyr Glu Leu Asp Lys Ala Phe Ser Asp Arg
1   5   10

<210> 24
<211> 16
<212> PRT
<213> Homo sapiens

<400> 24

Gly Ser Arg Glu Ile Lys Ser Gln Gln Ser Glu Val Thr Arg Ile Leu
1   5   10   15

<210> 25
<211> 12
<212> PRT
<213> Homo sapiens

<400> 25

Arg Glu Ile Lys Ser Gln Gln Ser Glu Val Thr Arg
1   5   10

<210> 26
<211> 14
<212> PRT
<213> Homo sapiens

<400> 26

Gly Ser Arg Glu Ile Lys Ser Gln Gln Ser Glu Val Thr Arg
1   5   10

<210> 27
<211> 14
<212> PRT
<213> Homo sapiens

<400> 27

Arg Glu Ile Lys Ser Gln Gln Ser Glu Val Thr Arg Ile Leu
1   5   10

<210> 28
<211> 17
<212> PRT
<213> Homo sapiens

<400> 28

Gly Pro His Asp Val His Val Gln Ile Glu Thr Ser Pro Pro Ala Arg
1   5   10   15

Asn

<210> 29
<211> 19
<212> PRT
<213> Homo sapiens

<400> 29

Gly Pro His Asp Val His Val Gln Ile Glu Thr Ser Pro Pro Ala Arg
1   5   10   15

Asn Leu Lys

<210> 30
<211> 16
<212> PRT
<213> Homo sapiens

<400> 30

Gly Pro His Asp Val His Val Gln Ile Glu Thr Ser Pro Pro Ala Arg
1   5   10   15

<210> 31
<211> 18
<212> PRT
<213> Homo sapiens

<400> 31

Thr Pro His Gly Ile Ile Leu Asp Ser Val Asp Ala Ala Phe Ile Cys
1   5   10   15

Pro Gly

<210> 32
<211> 17
<212> PRT
<213> Homo sapiens

<400> 32

Thr Pro His Gly Ile Ile Leu Asp Ser Val Asp Ala Ala Phe Ile Cys
1   5   10   15

Pro

<210>   33
<211>   13
<212>   PRT
<213>   Homo sapiens

<400>   33

Thr Pro His Gly Ile Ile Leu Asp Ser Val Asp Ala Ala
1   5   10

<210>   34
<211>   14
<212>   PRT
<213>   Homo sapiens

<400>   34

Gly Thr Pro His Gly Ile Ile Leu Asp Ser Val Asp Ala Ala
1   5   10

<210>   35
<211>   15
<212>   PRT
<213>   Homo sapiens

<400>   35

Thr Pro His Gly Ile Ile Leu Asp Ser Val Asp Ala Ala Phe Ile
1   5   10   15

<210>   36
<211>   18
<212>   PRT
<213>   Homo sapiens

<400>   36

Ile Asp Lys Glu Gly Val Ile Glu Pro Asp Thr Asp Ala Pro Gln Glu
1   5   10   15

Met Gly

<210> 37
<211> 15
<212> PRT
<213> Homo sapiens

<400> 37

Lys Glu Gly Val Ile Glu Pro Asp Thr Asp Ala Pro Gln Glu Met
1   5   10   15

<210> 38
<211> 16
<212> PRT
<213> Homo sapiens

<400> 38

Ile Asp Lys Glu Gly Val Ile Glu Pro Asp Thr Asp Ala Pro Gln Glu
1   5   10   15

<210> 39
<211> 15
<212> PRT
<213> Homo sapiens

<400> 39

Asp Lys Glu Gly Val Ile Glu Pro Asp Thr Asp Ala Pro Gln Glu
1   5   10   15

<210> 40
<211> 261
<212> PRT
<213> Homo sapiens

<300>
<308> Swiss-Prot/P13284
<309> 1990-01-01
<313> (1)..(261)

<400> 40

Met Asp Ser Arg His Thr Phe Ala Pro Ala Ala Met Thr Leu Ser Pro
1   5   10   15

Leu Leu Leu Phe Leu Pro Pro Leu Leu Leu Leu Leu Asp Val Pro Thr
            20   25   30

Ala Ala Val Gln Ala Ser Pro Leu Gln Ala Leu Asp Phe Phe Gly Asn
        35   40   45

Gly Pro Pro Val Asn Tyr Lys Thr Gly Asn Leu Tyr Leu Arg Gly Pro
    50   55   60

Leu Lys Lys Ser Asn Ala Pro Leu Val Asn Val Thr Leu Tyr Tyr Glu
65   70   75   80

Ala Leu Cys Gly Gly Cys Arg Ala Phe Leu Ile Arg Glu Leu Phe Pro
                85   90   95

Thr Trp Leu Leu Val Met Glu Ile Leu Asn Val Thr Leu Val Pro Tyr
            100   105   110

Gly Asn Ala Gln Glu Gln Asn Val Ser Gly Arg Trp Glu Phe Lys Cys
            115   120   125

Gln His Gly Glu Glu Glu Cys Lys Phe Asn Lys Val Glu Ala Cys Val
    130   135   140

Leu Asp Glu Leu Asp Met Glu Leu Ala Phe Leu Thr Ile Val Cys Met
145   150   155   160

Glu Glu Phe Glu Asp Met Glu Arg Ser Leu Pro Leu Cys Leu Gln Leu
                165   170   175

Tyr Ala Pro Gly Leu Ser Pro Asp Thr Ile Met Glu Cys Ala Met Gly
                180   185   190

Asp Arg Gly Met Gln Leu Met His Ala Asn Ala Gln Arg Thr Asp Ala
            195   200   205

Leu Gln Pro Pro His Glu Tyr Val Pro Trp Val Thr Val Asn Gly Lys
    210   215   220

Pro Leu Glu Asp Gln Thr Gln Leu Leu Thr Leu Val Cys Gln Leu Tyr
225   230   235   240

Gln Gly Lys Lys Pro Asp Val Cys Pro Ser Ser Thr Ser Ser Leu Arg
                245   250   255

Ser Val Cys Phe Lys
            260

<210> 41

<400> 41

Met Asp Pro Pro Arg Pro Ala Leu Leu Ala Leu Leu Ala Leu Pro Ala
1   5   10   15

Leu Leu Leu Leu Leu Leu Ala Gly Ala Arg Ala Glu Glu Glu Met Leu
            20   25   30

Glu Asn Val Ser Leu Val Cys Pro Lys Asp Ala Thr Arg Phe Lys His
            35   40   45

Leu Arg Lys Tyr Thr Tyr Asn Tyr Glu Ala Glu Ser Ser Ser Gly Val
        50   55   60

Pro Gly Thr Ala Asp Ser Arg Ser Ala Thr Arg Ile Asn Cys Lys Val
65   70   75   80

Glu Leu Glu Val Pro Gln Leu Cys Ser Phe Ile Leu Lys Thr Ser Gln
                85   90   95

Cys Thr Leu Lys Glu Val Tyr Gly Phe Asn Pro Glu Gly Lys Ala Leu
            100   105   110

Leu Lys Lys Thr Lys Asn Ser Glu Glu Phe Ala Ala Ala Met Ser Arg
        115   120   125

Tyr Glu Leu Lys Leu Ala Ile Pro Glu Gly Lys Gln Val Phe Leu Tyr
    130   135   140

Pro Glu Lys Asp Glu Pro Thr Tyr Ile Leu Asn Ile Lys Arg Gly Ile
145   150   155   160

Ile Ser Ala Leu Leu Val Pro Pro Glu Thr Glu Glu Ala Lys Gln Val
                165   170   175

Leu Phe Leu Asp Thr Val Tyr Gly Asn Cys Ser Thr His Phe Thr Val
            180   185   190

```
Lys Thr Arg Lys Gly Asn Val Ala Thr Glu Ile Ser Thr Glu Arg Asp
        195                 200                 205

Leu Gly Gln Cys Asp Arg Phe Lys Pro Ile Arg Thr Gly Ile Ser Pro
    210                 215                 220

Leu Ala Leu Ile Lys Gly Met Thr Arg Pro Leu Ser Thr Leu Ile Ser
225                 230                 235                 240

Ser Ser Gln Ser Cys Gln Tyr Thr Leu Asp Ala Lys Arg Lys His Val
                245                 250                 255

Ala Glu Ala Ile Cys Lys Glu Gln His Leu Phe Leu Pro Phe Ser Tyr
            260                 265                 270

Asn Asn Lys Tyr Gly Met Val Ala Gln Val Thr Gln Thr Leu Lys Leu
            275                 280                 285

Glu Asp Thr Pro Lys Ile Asn Ser Arg Phe Phe Gly Glu Gly Thr Lys
    290                 295                 300

Lys Met Gly Leu Ala Phe Glu Ser Thr Lys Ser Thr Ser Pro Pro Lys
305                 310                 315                 320

Gln Ala Glu Ala Val Leu Lys Thr Leu Gln Glu Leu Lys Lys Leu Thr
                325                 330                 335

Ile Ser Glu Gln Asn Ile Gln Arg Ala Asn Leu Phe Asn Lys Leu Val
            340                 345                 350

Thr Glu Leu Arg Gly Leu Ser Asp Glu Ala Val Thr Ser Leu Leu Pro
    355                 360                 365

Gln Leu Ile Glu Val Ser Ser Pro Ile Thr Leu Gln Ala Leu Val Gln
    370                 375                 380

Cys Gly Gln Pro Gln Cys Ser Thr His Ile Leu Gln Trp Leu Lys Arg
385                 390                 395                 400

Val His Ala Asn Pro Leu Leu Ile Asp Val Val Thr Tyr Leu Val Ala
                405                 410                 415
```

Leu Ile Pro Glu Pro Ser Ala Gln Gln Leu Arg Glu Ile Phe Asn Met
        420   425   430

Ala Arg Asp Gln Arg Ser Arg Ala Thr Leu Tyr Ala Leu Ser His Ala
        435   440   445

Val Asn Asn Tyr His Lys Thr Asn Pro Thr Gly Thr Gln Glu Leu Leu
    450   455   460

Asp Ile Ala Asn Tyr Leu Met Glu Gln Ile Gln Asp Asp Cys Thr Gly
465   470   475   480

Asp Glu Asp Tyr Thr Tyr Leu Ile Leu Arg Val Ile Gly Asn Met Gly
            485   490   495

Gln Thr Met Glu Gln Leu Thr Pro Glu Leu Lys Ser Ser Ile Leu Lys
        500   505   510

Cys Val Gln Ser Thr Lys Pro Ser Leu Met Ile Gln Lys Ala Ala Ile
        515   520   525

Gln Ala Leu Arg Lys Met Glu Pro Lys Asp Lys Asp Gln Glu Val Leu
    530   535   540

Leu Gln Thr Phe Leu Asp Asp Ala Ser Pro Gly Asp Lys Arg Leu Ala
545   550   555   560

Ala Tyr Leu Met Leu Met Arg Ser Pro Ser Gln Ala Asp Ile Asn Lys
            565   570   575

Ile Val Gln Ile Leu Pro Trp Glu Gln Asn Glu Gln Val Lys Asn Phe
            580   585   590

Val Ala Ser His Ile Ala Asn Ile Leu Asn Ser Glu Glu Leu Asp Ile
        595   600   605

Gln Asp Leu Lys Lys Leu Val Lys Glu Ala Leu Lys Glu Ser Gln Leu
    610   615   620

Pro Thr Val Met Asp Phe Arg Lys Phe Ser Arg Asn Tyr Gln Leu Tyr
625   630   635   640

Lys Ser Val Ser Leu Pro Ser Leu Asp Pro Ala Ser Ala Lys Ile Glu
                645   650   655

Gly Asn Leu Ile Phe Asp Pro Asn Asn Tyr Leu Pro Lys Glu Ser Met
                660   665   670

Leu Lys Thr Thr Leu Thr Ala Phe Gly Phe Ala Ser Ala Asp Leu Ile
                675   680   685

Glu Ile Gly Leu Glu Gly Lys Gly Phe Glu Pro Thr Leu Glu Ala Leu
                690   695   700

Phe Gly Lys Gln Gly Phe Phe Pro Asp Ser Val Asn Lys Ala Leu Tyr
705   710   715   720

Trp Val Asn Gly Gln Val Pro Asp Gly Val Ser Lys Val Leu Val Asp
                725   730   735

His Phe Gly Tyr Thr Lys Asp Asp Lys His Glu Gln Asp Met Val Asn
                740   745   750

Gly Ile Met Leu Ser Val Glu Lys Leu Ile Lys Asp Leu Lys Ser Lys
                755   760   765

Glu Val Pro Glu Ala Arg Ala Tyr Leu Arg Ile Leu Gly Glu Glu Leu
                770   775   780

Gly Phe Ala Ser Leu His Asp Leu Gln Leu Leu Gly Lys Leu Leu Leu
785   790   795   800

Met Gly Ala Arg Thr Leu Gln Gly Ile Pro Gln Met Ile Gly Glu Val
                805   810   815

Ile Arg Lys Gly Ser Lys Asn Asp Phe Phe Leu His Tyr Ile Phe Met
                820   825   830

Glu Asn Ala Phe Glu Leu Pro Thr Gly Ala Gly Leu Gln Leu Gln Ile
                835   840   845

Ser Ser Ser Gly Val Ile Ala Pro Gly Ala Lys Ala Gly Val Lys Leu
850   855   860

Glu Val Ala Asn Met Gln Ala Glu Leu Val Ala Lys Pro Ser Val Ser

Val Glu Phe Val Thr Asn Met Gly Ile Ile Ile Pro Asp Phe Ala Arg
                885   890   895

Ser Gly Val Gln Met Asn Thr Asn Phe Phe His Glu Ser Gly Leu Glu
                900   905   910

Ala His Val Ala Leu Lys Ala Gly Lys Leu Lys Phe Ile Ile Pro Ser
                915   920   925

Pro Lys Arg Pro Val Lys Leu Leu Ser Gly Gly Asn Thr Leu His Leu
                930   935   940

Val Ser Thr Thr Lys Thr Glu Val Ile Pro Pro Leu Ile Glu Asn Arg
945   950   955   960

Gln Ser Trp Ser Val Cys Lys Gln Val Phe Pro Gly Leu Asn Tyr Cys
                965   970   975

Thr Ser Gly Ala Tyr Ser Asn Ala Ser Ser Thr Asp Ser Ala Ser Tyr
                980   985   990

Tyr Pro Leu Thr Gly Asp Thr Arg Leu Glu Leu Glu Leu Arg Pro Thr
                995   1000   1005

Gly Glu Ile Glu Gln Tyr Ser Val Ser Ala Thr Tyr Glu Leu Gln
     1010   1015   1020

Arg Glu Asp Arg Ala Leu Val Asp Thr Leu Lys Phe Val Thr Gln
     1025   1030   1035

Ala Glu Gly Ala Lys Gln Thr Glu Ala Thr Met Thr Phe Lys Tyr
     1040   1045   1050

Asn Arg Gln Ser Met Thr Leu Ser Ser Glu Val Gln Ile Pro Asp
     1055   1060   1065

Phe Asp Val Asp Leu Gly Thr Ile Leu Arg Val Asn Asp Glu Ser
     1070   1075   1080

Thr Glu Gly Lys Thr Ser Tyr Arg Leu Thr Leu Asp Ile Gln Asn
     1085   1090   1095

Lys Lys Ile Thr Glu Val Ala Leu Met Gly His Leu Ser Cys Asp
    1100   1105   1110

Thr Lys Glu Glu Arg Lys Ile Lys Gly Val Ile Ser Ile Pro Arg
    1115   1120   1125

Leu Gln Ala Glu Ala Arg Ser Glu Ile Leu Ala His Trp Ser Pro
    1130   1135   1140

Ala Lys Leu Leu Leu Gln Met Asp Ser Ser Ala Thr Ala Tyr Gly
    1145   1150   1155

Ser Thr Val Ser Lys Arg Val Ala Trp His Tyr Asp Glu Glu Lys
    1160   1165   1170

Ile Glu Phe Glu Trp Asn Thr Gly Thr Asn Val Asp Thr Lys Lys
    1175   1180   1185

Met Thr Ser Asn Phe Pro Val Asp Leu Ser Asp Tyr Pro Lys Ser
    1190   1195   1200

Leu His Met Tyr Ala Asn Arg Leu Leu Asp His Arg Val Pro Glu
    1205   1210   1215

Thr Asp Met Thr Phe Arg His Val Gly Ser Lys Leu Ile Val Ala
    1220   1225   1230

Met Ser Ser Trp Leu Gln Lys Ala Ser Gly Ser Leu Pro Tyr Thr
    1235   1240   1245

Gln Thr Leu Gln Asp His Leu Asn Ser Leu Lys Glu Phe Asn Leu
    1250   1255   1260

Gln Asn Met Gly Leu Pro Asp Phe His Ile Pro Glu Asn Leu Phe
    1265   1270   1275

Leu Lys Ser Asp Gly Arg Val Lys Tyr Thr Leu Asn Lys Asn Ser
    1280   1285   1290

Leu Lys Ile Glu Ile Pro Leu Pro Phe Gly Gly Lys Ser Ser Arg
    1295   1300   1305

```
Asp Leu  Lys Met Leu Glu Thr  Val Arg Thr Pro Ala  Leu His Phe
    1310                 1315             1320

Lys Ser  Val Gly Phe His Leu  Pro Ser Arg Glu Phe  Gln Val Pro
    1325                 1330             1335

Thr Phe  Thr Ile Pro Lys Leu  Tyr Gln Leu Gln Val  Pro Leu Leu
    1340                 1345             1350

Gly Val  Leu Asp Leu Ser Thr  Asn Val Tyr Ser Asn  Leu Tyr Asn
    1355                 1360             1365

Trp Ser  Ala Ser Tyr Ser Gly  Gly Asn Thr Ser Thr  Asp His Phe
    1370                 1375             1380

Ser Leu  Arg Ala Arg Tyr His  Met Lys Ala Asp Ser  Val Val Asp
    1385                 1390             1395

Leu Leu  Ser Tyr Asn Val Gln  Gly Ser Gly Glu Thr  Thr Tyr Asp
    1400                 1405             1410

His Lys  Asn Thr Phe Thr Leu  Ser Cys Asp Gly Ser  Leu Arg His
    1415                 1420             1425

Lys Phe  Leu Asp Ser Asn Ile  Lys Phe Ser His Val  Glu Lys Leu
    1430                 1435             1440

Gly Asn  Asn Pro Val Ser Lys  Gly Leu Leu Ile Phe  Asp Ala Ser
    1445                 1450             1455

Ser Ser  Trp Gly Pro Gln Met  Ser Ala Ser Val His  Leu Asp Ser
    1460                 1465             1470

Lys Lys  Lys Gln His Leu Phe  Val Lys Glu Val Lys  Ile Asp Gly
    1475                 1480             1485

Gln Phe  Arg Val Ser Ser Phe  Tyr Ala Lys Gly Thr  Tyr Gly Leu
    1490                 1495             1500

Ser Cys  Gln Arg Asp Pro Asn  Thr Gly Arg Leu Asn  Gly Glu Ser
    1505                 1510             1515
```

```
Asn Leu  Arg Phe Asn Ser Ser  Tyr Leu Gln Gly Thr  Asn Gln Ile
    1520             1525              1530

Thr Gly  Arg Tyr Glu Asp Gly  Thr Leu Ser Leu Thr  Ser Thr Ser
    1535             1540              1545

Asp Leu  Gln Ser Gly Ile Ile  Lys Asn Thr Ala Ser  Leu Lys Tyr
    1550             1555              1560

Glu Asn  Tyr Glu Leu Thr Leu  Lys Ser Asp Thr Asn  Gly Lys Tyr
    1565             1570              1575

Lys Asn  Phe Ala Thr Ser Asn  Lys Met Asp Met Thr  Phe Ser Lys
    1580             1585              1590

Gln Asn  Ala Leu Leu Arg Ser  Glu Tyr Gln Ala Asp  Tyr Glu Ser
    1595             1600              1605

Leu Arg  Phe Phe Ser Leu Leu  Ser Gly Ser Leu Asn  Ser His Gly
    1610             1615              1620

Leu Glu  Leu Asn Ala Asp Ile  Leu Gly Thr Asp Lys  Ile Asn Ser
    1625             1630              1635

Gly Ala  His Lys Ala Thr Leu  Arg Ile Gly Gln Asp  Gly Ile Ser
    1640             1645              1650

Thr Ser  Ala Thr Thr Asn Leu  Lys Cys Ser Leu Leu  Val Leu Glu
    1655             1660              1665

Asn Glu  Leu Asn Ala Glu Leu  Gly Leu Ser Gly Ala  Ser Met Lys
    1670             1675              1680

Leu Thr  Thr Asn Gly Arg Phe  Arg Glu His Asn Ala  Lys Phe Ser
    1685             1690              1695

Leu Asp  Gly Lys Ala Ala Leu  Thr Glu Leu Ser Leu  Gly Ser Ala
    1700             1705              1710

Tyr Gln  Ala Met Ile Leu Gly  Val Asp Ser Lys Asn  Ile Phe Asn
    1715             1720              1725

Phe Lys  Val Ser Gln Glu Gly  Leu Lys Leu Ser Asn  Asp Met Met
```

```
       1730                    1735                    1740


Gly Ser  Tyr Ala Glu Met Lys  Phe Asp His Thr Asn  Ser Leu Asn
    1745                    1750                    1755


Ile Ala  Gly Leu Ser Leu Asp  Phe Ser Ser Lys Leu  Asp Asn Ile
    1760                    1765                    1770


Tyr Ser  Ser Asp Lys Phe Tyr  Lys Gln Thr Val Asn  Leu Gln Leu
    1775                    1780                    1785


Gln Pro  Tyr Ser Leu Val Thr  Thr Leu Asn Ser Asp  Leu Lys Tyr
    1790                    1795                    1800


Asn Ala  Leu Asp Leu Thr Asn  Asn Gly Lys Leu Arg  Leu Glu Pro
    1805                    1810                    1815


Leu Lys  Leu His Val Ala Gly  Asn Leu Lys Gly Ala  Tyr Gln Asn
    1820                    1825                    1830


Asn Glu  Ile Lys His Ile Tyr  Ala Ile Ser Ser Ala  Ala Leu Ser
    1835                    1840                    1845


Ala Ser  Tyr Lys Ala Asp Thr  Val Ala Lys Val Gln  Gly Val Glu
    1850                    1855                    1860


Phe Ser  His Arg Leu Asn Thr  Asp Ile Ala Gly Leu  Ala Ser Ala
    1865                    1870                    1875


Ile Asp  Met Ser Thr Asn Tyr  Asn Ser Asp Ser Leu  His Phe Ser
    1880                    1885                    1890


Asn Val  Phe Arg Ser Val Met  Ala Pro Phe Thr Met  Thr Ile Asp
    1895                    1900                    1905


Ala His  Thr Asn Gly Asn Gly  Lys Leu Ala Leu Trp  Gly Glu His
    1910                    1915                    1920


Thr Gly  Gln Leu Tyr Ser Lys  Phe Leu Leu Lys Ala  Glu Pro Leu
    1925                    1930                    1935


Ala Phe  Thr Phe Ser His Asp  Tyr Lys Gly Ser Thr  Ser His His
    1940                    1945                    1950
```

Leu Val   Ser Arg Lys Ser Ile   Ser Ala Ala Leu Glu   His Lys Val
    1955   1960   1965

Ser Ala   Leu Leu Thr Pro Ala   Glu Gln Thr Gly Thr   Trp Lys Leu
    1970   1975   1980

Lys Thr   Gln Phe Asn Asn Asn   Glu Tyr Ser Gln Asp   Leu Asp Ala
    1985   1990   1995

Tyr Asn   Thr Lys Asp Lys Ile   Gly Val Glu Leu Thr   Gly Arg Thr
    2000   2005   2010

Leu Ala   Asp Leu Thr Leu Leu   Asp Ser Pro Ile Lys   Val Pro Leu
    2015   2020   2025

Leu Leu   Ser Glu Pro Ile Asn   Ile Ile Asp Ala Leu   Glu Met Arg
    2030   2035   2040

Asp Ala   Val Glu Lys Pro Gln   Glu Phe Thr Ile Val   Ala Phe Val
    2045   2050   2055

Lys Tyr   Asp Lys Asn Gln Asp   Val His Ser Ile Asn   Leu Pro Phe
    2060   2065   2070

Phe Glu   Thr Leu Gln Glu Tyr   Phe Glu Arg Asn Arg   Gln Thr Ile
    2075   2080   2085

Ile Val   Val Val Glu Asn Val   Gln Arg Asn Leu Lys   His Ile Asn
    2090   2095   2100

Ile Asp   Gln Phe Val Arg Lys   Tyr Arg Ala Ala Leu   Gly Lys Leu
    2105   2110   2115

Pro Gln   Gln Ala Asn Asp Tyr   Leu Asn Ser Phe Asn   Trp Glu Arg
    2120   2125   2130

Gln Val   Ser His Ala Lys Glu   Lys Leu Thr Ala Leu   Thr Lys Lys
    2135   2140   2145

Tyr Arg   Ile Thr Glu Asn Asp   Ile Gln Ile Ala Leu   Asp Asp Ala
    2150   2155   2160

Lys Ile Asn Phe Asn Glu Lys Leu Ser Gln Leu Gln Thr Tyr Met
    2165   2170   2175

Ile Gln Phe Asp Gln Tyr Ile Lys Asp Ser Tyr Asp Leu His Asp
    2180   2185   2190

Leu Lys Ile Ala Ile Ala Asn Ile Ile Asp Glu Ile Ile Glu Lys
    2195   2200   2205

Leu Lys Ser Leu Asp Glu His Tyr His Ile Arg Val Asn Leu Val
    2210   2215   2220

Lys Thr Ile His Asp Leu His Leu Phe Ile Glu Asn Ile Asp Phe
    2225   2230   2235

Asn Lys Ser Gly Ser Ser Thr Ala Ser Trp Ile Gln Asn Val Asp
    2240   2245   2250

Thr Lys Tyr Gln Ile Arg Ile Gln Ile Gln Glu Lys Leu Gln Gln
    2255   2260   2265

Leu Lys Arg His Ile Gln Asn Ile Asp Ile Gln His Leu Ala Gly
    2270   2275   2280

Lys Leu Lys Gln His Ile Glu Ala Ile Asp Val Arg Val Leu Leu
    2285   2290   2295

Asp Gln Leu Gly Thr Thr Ile Ser Phe Glu Arg Ile Asn Asp Val
    2300   2305   2310

Leu Glu His Val Lys His Phe Val Ile Asn Leu Ile Gly Asp Phe
    2315   2320   2325

Glu Val Ala Glu Lys Ile Asn Ala Phe Arg Ala Lys Val His Glu
    2330   2335   2340

Leu Ile Glu Arg Tyr Glu Val Asp Gln Gln Ile Gln Val Leu Met
    2345   2350   2355

Asp Lys Leu Val Glu Leu Thr His Gln Tyr Lys Leu Lys Glu Thr
    2360   2365   2370

Ile Gln Lys Leu Ser Asn Val Leu Gln Gln Val Lys Ile Lys Asp
    2375   2380   2385

Tyr Phe Glu Lys Leu Val Gly Phe Ile Asp Asp Ala Val Lys Lys
    2390   2395   2400

Leu Asn Glu Leu Ser Phe Lys Thr Phe Ile Glu Asp Val Asn Lys
    2405   2410   2415

Phe Leu Asp Met Leu Ile Lys Lys Leu Lys Ser Phe Asp Tyr His
    2420   2425   2430

Gln Phe Val Asp Glu Thr Asn Asp Lys Ile Arg Glu Val Thr Gln
    2435   2440   2445

Arg Leu Asn Gly Glu Ile Gln Ala Leu Glu Leu Pro Gln Lys Ala
    2450   2455   2460

Glu Ala Leu Lys Leu Phe Leu Glu Glu Thr Lys Ala Thr Val Ala
    2465   2470   2475

Val Tyr Leu Glu Ser Leu Gln Asp Thr Lys Ile Thr Leu Ile Ile
    2480   2485   2490

Asn Trp Leu Gln Glu Ala Leu Ser Ser Ala Ser Leu Ala His Met
    2495   2500   2505

Lys Ala Lys Phe Arg Glu Thr Leu Glu Asp Thr Arg Asp Arg Met
    2510   2515   2520

Tyr Gln Met Asp Ile Gln Gln Glu Leu Gln Arg Tyr Leu Ser Leu
    2525   2530   2535

Val Gly Gln Val Tyr Ser Thr Leu Val Thr Tyr Ile Ser Asp Trp
    2540   2545   2550

Trp Thr Leu Ala Ala Lys Asn Leu Thr Asp Phe Ala Glu Gln Tyr
    2555   2560   2565

Ser Ile Gln Asp Trp Ala Lys Arg Met Lys Ala Leu Val Glu Gln
    2570   2575   2580

Gly Phe Thr Val Pro Glu Ile Lys Thr Ile Leu Gly Thr Met Pro

```
            2585                      2590                      2595

Ala Phe  Glu Val Ser Leu Gln  Ala Leu Gln Lys Ala  Thr Phe Gln
         2600                      2605                      2610

Thr Pro  Asp Phe Ile Val Pro  Leu Thr Asp Leu Arg  Ile Pro Ser
         2615                      2620                      2625

Val Gln  Ile Asn Phe Lys Asp  Leu Lys Asn Ile Lys  Ile Pro Ser
         2630                      2635                      2640

Arg Phe  Ser Thr Pro Glu Phe  Thr Ile Leu Asn Thr  Phe His Ile
         2645                      2650                      2655

Pro Ser  Phe Thr Ile Asp Phe  Val Glu Met Lys Val  Lys Ile Ile
         2660                      2665                      2670

Arg Thr  Ile Asp Gln Met Gln  Asn Ser Glu Leu Gln  Trp Pro Val
         2675                      2680                      2685

Pro Asp  Ile Tyr Leu Arg Asp  Leu Lys Val Glu Asp  Ile Pro Leu
         2690                      2695                      2700

Ala Arg  Ile Thr Leu Pro Asp  Phe Arg Leu Pro Glu  Ile Ala Ile
         2705                      2710                      2715

Pro Glu  Phe Ile Ile Pro Thr  Leu Asn Leu Asn Asp  Phe Gln Val
         2720                      2725                      2730

Pro Asp  Leu His Ile Pro Glu  Phe Gln Leu Pro His  Ile Ser His
         2735                      2740                      2745

Thr Ile  Glu Val Pro Thr Phe  Gly Lys Leu Tyr Ser  Ile Leu Lys
         2750                      2755                      2760

Ile Gln  Ser Pro Leu Phe Thr  Leu Asp Ala Asn Ala  Asp Ile Gly
         2765                      2770                      2775

Asn Gly  Thr Thr Ser Ala Asn  Glu Ala Gly Ile Ala  Ala Ser Ile
         2780                      2785                      2790

Thr Ala  Lys Gly Glu Ser Lys  Leu Glu Val Leu Asn  Phe Asp Phe
         2795                      2800                      2805
```

Gln Ala Asn Ala Gln Leu Ser Asn Pro Lys Ile Asn Pro Leu Ala
    2810   2815   2820

Leu Lys Glu Ser Val Lys Phe Ser Ser Lys Tyr Leu Arg Thr Glu
    2825   2830   2835

His Gly Ser Glu Met Leu Phe Phe Gly Asn Ala Ile Glu Gly Lys
    2840   2845   2850

Ser Asn Thr Val Ala Ser Leu His Thr Glu Lys Asn Thr Leu Glu
    2855   2860   2865

Leu Ser Asn Gly Val Ile Val Lys Ile Asn Asn Gln Leu Thr Leu
    2870   2875   2880

Asp Ser Asn Thr Lys Tyr Phe His Lys Leu Asn Ile Pro Lys Leu
    2885   2890   2895

Asp Phe Ser Ser Gln Ala Asp Leu Arg Asn Glu Ile Lys Thr Leu
    2900   2905   2910

Leu Lys Ala Gly His Ile Ala Trp Thr Ser Ser Gly Lys Gly Ser
    2915   2920   2925

Trp Lys Trp Ala Cys Pro Arg Phe Ser Asp Glu Gly Thr His Glu
    2930   2935   2940

Ser Gln Ile Ser Phe Thr Ile Glu Gly Pro Leu Thr Ser Phe Gly
    2945   2950   2955

Leu Ser Asn Lys Ile Asn Ser Lys His Leu Arg Val Asn Gln Asn
    2960   2965   2970

Leu Val Tyr Glu Ser Gly Ser Leu Asn Phe Ser Lys Leu Glu Ile
    2975   2980   2985

Gln Ser Gln Val Asp Ser Gln His Val Gly His Ser Val Leu Thr
    2990   2995   3000

Ala Lys Gly Met Ala Leu Phe Gly Glu Gly Lys Ala Glu Phe Thr
    3005   3010   3015

Gly Arg   His Asp Ala His Leu   Asn Gly Lys Val Ile   Gly Thr Leu
   3020   3025   3030

Lys Asn   Ser Leu Phe Phe Ser   Ala Gln Pro Phe Glu   Ile Thr Ala
   3035   3040   3045

Ser Thr   Asn Asn Glu Gly Asn   Leu Lys Val Arg Phe   Pro Leu Arg
   3050   3055   3060

Leu Thr   Gly Lys Ile Asp Phe   Leu Asn Asn Tyr Ala   Leu Phe Leu
   3065   3070   3075

Ser Pro   Ser Ala Gln Gln Ala   Ser Trp Gln Val Ser   Ala Arg Phe
   3080   3085   3090

Asn Gln   Tyr Lys Tyr Asn Gln   Asn Phe Ser Ala Gly   Asn Asn Glu
   3095   3100   3105

Asn Ile   Met Glu Ala His Val   Gly Ile Asn Gly Glu   Ala Asn Leu
   3110   3115   3120

Asp Phe   Leu Asn Ile Pro Leu   Thr Ile Pro Glu Met   Arg Leu Pro
   3125   3130   3135

Tyr Thr   Ile Ile Thr Thr Pro   Pro Leu Lys Asp Phe   Ser Leu Trp
   3140   3145   3150

Glu Lys   Thr Gly Leu Lys Glu   Phe Leu Lys Thr Thr   Lys Gln Ser
   3155   3160   3165

Phe Asp   Leu Ser Val Lys Ala   Gln Tyr Lys Lys Asn   Lys His Arg
   3170   3175   3180

His Ser   Ile Thr Asn Pro Leu   Ala Val Leu Cys Glu   Phe Ile Ser
   3185   3190   3195

Gln Ser   Ile Lys Ser Phe Asp   Arg His Phe Glu Lys   Asn Arg Asn
   3200   3205   3210

Asn Ala   Leu Asp Phe Val Thr   Lys Ser Tyr Asn Glu   Thr Lys Ile
   3215   3220   3225

Lys Phe Asp Lys Tyr Lys Ala Glu Lys Ser His Asp Glu Leu Pro
    3230   3235   3240

Arg Thr Phe Gln Ile Pro Gly Tyr Thr Val Pro Val Val Asn Val
    3245   3250   3255

Glu Val Ser Pro Phe Thr Ile Glu Met Ser Ala Phe Gly Tyr Val
    3260   3265   3270

Phe Pro Lys Ala Val Ser Met Pro Ser Phe Ser Ile Leu Gly Ser
    3275   3280   3285

Asp Val Arg Val Pro Ser Tyr Thr Leu Ile Leu Pro Ser Leu Glu
    3290   3295   3300

Leu Pro Val Leu His Val Pro Arg Asn Leu Lys Leu Ser Leu Pro
    3305   3310   3315

His Phe Lys Glu Leu Cys Thr Ile Ser His Ile Phe Ile Pro Ala
    3320   3325   3330

Met Gly Asn Ile Thr Tyr Asp Phe Ser Phe Lys Ser Ser Val Ile
    3335   3340   3345

Thr Leu Asn Thr Asn Ala Glu Leu Phe Asn Gln Ser Asp Ile Val
    3350   3355   3360

Ala His Leu Leu Ser Ser Ser Ser Ser Val Ile Asp Ala Leu Gln
    3365   3370   3375

Tyr Lys Leu Glu Gly Thr Thr Arg Leu Thr Arg Lys Arg Gly Leu
    3380   3385   3390

Lys Leu Ala Thr Ala Leu Ser Leu Ser Asn Lys Phe Val Glu Gly
    3395   3400   3405

Ser His Asn Ser Thr Val Ser Leu Thr Thr Lys Asn Met Glu Val
    3410   3415   3420

Ser Val Ala Lys Thr Thr Lys Ala Glu Ile Pro Ile Leu Arg Met
    3425   3430   3435

Asn Phe Lys Gln Glu Leu Asn Gly Asn Thr Lys Ser Lys Pro Thr

```
        3440                    3445                    3450


Val Ser  Ser Ser Met Glu Phe  Lys Tyr Asp Phe Asn  Ser Ser Met
    3455                    3460                    3465


Leu Tyr  Ser Thr Ala Lys Gly  Ala Val Asp His Lys  Leu Ser Leu
    3470                    3475                    3480


Glu Ser  Leu Thr Ser Tyr Phe  Ser Ile Glu Ser Ser  Thr Lys Gly
    3485                    3490                    3495


Asp Val  Lys Gly Ser Val Leu  Ser Arg Glu Tyr Ser  Gly Thr Ile
    3500                    3505                    3510


Ala Ser  Glu Ala Asn Thr Tyr  Leu Asn Ser Lys Ser  Thr Arg Ser
    3515                    3520                    3525


Ser Val  Lys Leu Gln Gly Thr  Ser Lys Ile Asp Asp  Ile Trp Asn
    3530                    3535                    3540


Leu Glu  Val Lys Glu Asn Phe  Ala Gly Glu Ala Thr  Leu Gln Arg
    3545                    3550                    3555


Ile Tyr  Ser Leu Trp Glu His  Ser Thr Lys Asn His  Leu Gln Leu
    3560                    3565                    3570


Glu Gly  Leu Phe Phe Thr Asn  Gly Glu His Thr Ser  Lys Ala Thr
    3575                    3580                    3585


Leu Glu  Leu Ser Pro Trp Gln  Met Ser Ala Leu Val  Gln Val His
    3590                    3595                    3600


Ala Ser  Gln Pro Ser Ser Phe  His Asp Phe Pro Asp  Leu Gly Gln
    3605                    3610                    3615


Glu Val  Ala Leu Asn Ala Asn  Thr Lys Asn Gln Lys  Ile Arg Trp
    3620                    3625                    3630


Lys Asn  Glu Val Arg Ile His  Ser Gly Ser Phe Gln  Ser Gln Val
    3635                    3640                    3645


Glu Leu  Ser Asn Asp Gln Glu  Lys Ala His Leu Asp  Ile Ala Gly
    3650                    3655                    3660
```

Ser Leu Glu Gly His Leu Arg Phe Leu Lys Asn Ile Ile Leu Pro
    3665   3670   3675

Val Tyr Asp Lys Ser Leu Trp Asp Phe Leu Lys Leu Asp Val Thr
    3680   3685   3690

Thr Ser Ile Gly Arg Arg Gln His Leu Arg Val Ser Thr Ala Phe
    3695   3700   3705

Val Tyr Thr Lys Asn Pro Asn Gly Tyr Ser Phe Ser Ile Pro Val
    3710   3715   3720

Lys Val Leu Ala Asp Lys Phe Ile Thr Pro Gly Leu Lys Leu Asn
    3725   3730   3735

Asp Leu Asn Ser Val Leu Val Met Pro Thr Phe His Val Pro Phe
    3740   3745   3750

Thr Asp Leu Gln Val Pro Ser Cys Lys Leu Asp Phe Arg Glu Ile
    3755   3760   3765

Gln Ile Tyr Lys Lys Leu Arg Thr Ser Ser Phe Ala Leu Asn Leu
    3770   3775   3780

Pro Thr Leu Pro Glu Val Lys Phe Pro Glu Val Asp Val Leu Thr
    3785   3790   3795

Lys Tyr Ser Gln Pro Glu Asp Ser Leu Ile Pro Phe Phe Glu Ile
    3800   3805   3810

Thr Val Pro Glu Ser Gln Leu Thr Val Ser Gln Phe Thr Leu Pro
    3815   3820   3825

Lys Ser Val Ser Asp Gly Ile Ala Ala Leu Asp Leu Asn Ala Val
    3830   3935   3840

Ala Asn Lys Ile Ala Asp Phe Glu Leu Pro Thr Ile Ile Val Pro
    3845   3850   3855

Glu Gln Thr Ile Glu Ile Pro Ser Ile Lys Phe Ser Val Pro Ala
    3860   3865   3870

Gly Ile Val Ile Pro Ser Phe Gln Ala Leu Thr Ala Arg Phe Glu
    3875   3880   3885

Val Asp Ser Pro Val Tyr Asn Ala Thr Trp Ser Ala Ser Leu Lys
    3890   3895   3900

Asn Lys Ala Asp Tyr Val Glu Thr Val Leu Asp Ser Thr Cys Ser
    3905   3910   3915

Ser Thr Val Gln Phe Leu Glu Tyr Glu Leu Asn Val Leu Gly Thr
    3920   3925   3930

His Lys Ile Glu Asp Gly Thr Leu Ala Ser Lys Thr Lys Gly Thr
    3935   3940   3945

Leu Ala His Arg Asp Phe Ser Ala Glu Tyr Glu Glu Asp Gly Lys
    3950   3955   3960

Phe Glu Gly Leu Gln Glu Trp Glu Gly Lys Ala His Leu Asn Ile
    3965   3970   3975

Lys Ser Pro Ala Phe Thr Asp Leu His Leu Arg Tyr Gln Lys Asp
    3980   3985   3990

Lys Lys Gly Ile Ser Thr Ser Ala Ala Ser Pro Ala Val Gly Thr
    3995   4000   4005

Val Gly Met Asp Met Asp Glu Asp Asp Asp Phe Ser Lys Trp Asn
    4010   4015   4020

Phe Tyr Tyr Ser Pro Gln Ser Ser Pro Asp Lys Lys Leu Thr Ile
    4025   4030   4035

Phe Lys Thr Glu Leu Arg Val Arg Glu Ser Asp Glu Glu Thr Gln
    4040   4045   4050

Ile Lys Val Asn Trp Glu Glu Glu Ala Ala Ser Gly Leu Leu Thr
    4055   4060   4065

Ser Leu Lys Asp Asn Val Pro Lys Ala Thr Gly Val Leu Tyr Asp
    4070   4075   4080

Tyr Val Asn Lys Tyr His Trp Glu His Thr Gly Leu Thr Leu Arg
    4085   4090   4095

Glu Val Ser Ser Lys Leu Arg Arg Asn Leu Gln Asn Asn Ala Glu
    4100   4105   4110

Trp Val Tyr Gln Gly Ala Ile Arg Gln Ile Asp Asp Ile Asp Val
    4115   4120   4125

Arg Phe Gln Lys Ala Ala Ser Gly Thr Thr Gly Thr Tyr Gln Glu
    4130   4135   4140

Trp Lys Asp Lys Ala Gln Asn Leu Tyr Gln Glu Leu Leu Thr Gln
    4145   4150   4155

Glu Gly Gln Ala Ser Phe Gln Gly Leu Lys Asp Asn Val Phe Asp
    4160   4165   4170

Gly Leu Val Arg Val Thr Gln Lys Phe His Met Lys Val Lys His
    4175   4180   4185

Leu Ile Asp Ser Leu Ile Asp Phe Leu Asn Phe Pro Arg Phe Gln
    4190   4195   4200

Phe Pro Gly Lys Pro Gly Ile Tyr Thr Arg Glu Glu Leu Cys Thr
    4205   4210   4215

Met Phe Ile Arg Glu Val Gly Thr Val Leu Ser Gln Val Tyr Ser
    4220   4225   4230

Lys Val His Asn Gly Ser Glu Ile Leu Phe Ser Tyr Phe Gln Asp
    4235   4240   4245

Leu Val Ile Thr Leu Pro Phe Glu Leu Arg Lys His Lys Leu Ile
    4250   4255   4260

Asp Val Ile Ser Met Tyr Arg Glu Leu Leu Lys Asp Leu Ser Lys
    4265   4270   4275

Glu Ala Gln Glu Val Phe Lys Ala Ile Gln Ser Leu Lys Thr Thr
    4280   4285   4290

Glu Val Leu Arg Asn Leu Gln Asp Leu Leu Gln Phe Ile Phe Gln

```
        4295                        4300                        4305


    Leu Ile  Glu Asp Asn Ile Lys  Gln Leu Lys Glu Met  Lys Phe Thr
        4310                  4315                  4320


    Tyr Leu  Ile Asn Tyr Ile Gln  Asp Glu Ile Asn Thr  Ile Phe Asn
        4325                  4330                  4335


    Asp Tyr  Ile Pro Tyr Val Phe  Lys Leu Leu Lys Glu  Asn Leu Cys
        4340                  4345                  4350


    Leu Asn  Leu His Lys Phe Asn  Glu Phe Ile Gln Asn  Glu Leu Gln
        4355                  4360                  4365


    Glu Ala  Ser Gln Glu Leu Gln  Gln Ile His Gln Tyr  Ile Met Ala
        4370                  4375                  4380


    Leu Arg  Glu Glu Tyr Phe Asp  Pro Ser Ile Val Gly  Trp Thr Val
        4385                  4390                  4395


    Lys Tyr  Tyr Glu Leu Glu Glu  Lys Ile Val Ser Leu  Ile Lys Asn
        4400                  4405                  4410


    Leu Leu  Val Ala Leu Lys Asp  Phe His Ser Glu Tyr  Ile Val Ser
        4415                  4420                  4425


    Ala Ser  Asn Phe Thr Ser Gln  Leu Ser Ser Gln Val  Glu Gln Phe
        4430                  4435                  4440


    Leu His  Arg Asn Ile Gln Glu  Tyr Leu Ser Ile Leu  Thr Asp Pro
        4445                  4450                  4455


    Asp Gly  Lys Gly Lys Glu Lys  Ile Ala Glu Leu Ser  Ala Thr Ala
        4460                  4465                  4470


    Gln Glu  Ile Ile Lys Ser Gln  Ala Ile Ala Thr Lys  Lys Ile Ile
        4475                  4480                  4485


    Ser Asp  Tyr His Gln Gln Phe  Arg Tyr Lys Leu Gln  Asp Phe Ser
        4490                  4495                  4500


    Asp Gln  Leu Ser Asp Tyr Tyr  Glu Lys Phe Ile Ala  Glu Ser Lys
        4505                  4510                  4515
```

```
Arg Leu   Ile Asp Leu Ser Ile  Gln Asn Tyr His Thr  Phe Leu Ile
    4520              4525          4530


Tyr Ile  Thr Glu Leu Leu Lys  Lys Leu Gln Ser Thr  Thr Val Met
    4535              4540          4545


Asn Pro  Tyr Met Lys Leu Ala  Pro Gly Glu Leu Thr  Ile Ile Leu
    4550              4555          4560


<210>  42
<211>  930
<212>  PRT
<213>  Homo sapiens

<300>
<308>  Swiss-Prot/Q14624
<309>  1998-07-15
<313>  (1)..(930)


<400>  42

Met Lys Pro Pro Arg Pro Val Arg Thr Cys Ser Lys Val Leu Val Leu
1               5               10              15


Leu Ser Leu Leu Ala Ile His Gln Thr Thr Thr Ala Glu Lys Asn Gly
            20              25              30


Ile Asp Ile Tyr Ser Leu Thr Val Asp Ser Arg Val Ser Ser Arg Phe
        35              40              45


Ala His Thr Val Val Thr Ser Arg Val Val Asn Arg Ala Asn Thr Val
    50              55              60


Gln Glu Ala Thr Phe Gln Met Glu Leu Pro Lys Lys Ala Phe Ile Thr
65              70              75              80


Asn Phe Ser Met Asn Ile Asp Gly Met Thr Tyr Pro Gly Ile Ile Lys
                85              90              95


Glu Lys Ala Glu Ala Gln Ala Gln Tyr Ser Ala Ala Val Ala Lys Gly
            100             105             110


Lys Ser Ala Gly Leu Val Lys Ala Thr Gly Arg Asn Met Glu Gln Phe
        115             120             125
```

```
Gln Val Ser Val Ser Val Ala Pro Asn Ala Lys Ile Thr Phe Glu Leu
    130             135             140

Val Tyr Glu Glu Leu Leu Lys Arg Arg Leu Gly Val Tyr Glu Leu Leu
145             150             155             160

Leu Lys Val Arg Pro Gln Gln Leu Val Lys His Leu Gln Met Asp Ile
                165             170             175

His Ile Phe Glu Pro Gln Gly Ile Ser Phe Leu Glu Thr Glu Ser Thr
            180             185             190

Phe Met Thr Asn Gln Leu Val Asp Ala Leu Thr Thr Trp Gln Asn Lys
        195             200             205

Thr Lys Ala His Ile Arg Phe Lys Pro Thr Leu Ser Gln Gln Gln Lys
    210             215             220

Ser Pro Glu Gln Gln Glu Thr Val Leu Asp Gly Asn Leu Ile Ile Arg
225             230             235             240

Tyr Asp Val Asp Arg Ala Ile Ser Gly Gly Ser Ile Gln Ile Glu Asn
                245             250             255

Gly Tyr Phe Val His Tyr Phe Ala Pro Glu Gly Leu Thr Thr Met Pro
            260             265             270

Lys Asn Val Val Phe Val Ile Asp Lys Ser Gly Ser Met Ser Gly Arg
        275             280             285

Lys Ile Gln Gln Thr Arg Glu Ala Leu Ile Lys Ile Leu Asp Asp Leu
    290             295             300

Ser Pro Arg Asp Gln Phe Asn Leu Ile Val Phe Ser Thr Glu Ala Thr
305             310             315             320

Gln Trp Arg Pro Ser Leu Val Pro Ala Ser Ala Glu Asn Val Asn Lys
                325             330             335

Ala Arg Ser Phe Ala Ala Gly Ile Gln Ala Leu Gly Gly Thr Asn Ile
            340             345             350
```

Asn Asp Ala Met Leu Met Ala Val Gln Leu Leu Asp Ser Ser Asn Gln
    355   360   365

Glu Glu Arg Leu Pro Glu Gly Ser Val Ser Leu Ile Ile Leu Leu Thr
    370   375   380

Asp Gly Asp Pro Thr Val Gly Glu Thr Asn Pro Arg Ser Ile Gln Asn
385   390   395   400

Asn Val Arg Glu Ala Val Ser Gly Arg Tyr Ser Leu Phe Cys Leu Gly
                405   410   415

Phe Gly Phe Asp Val Ser Tyr Ala Phe Leu Glu Lys Leu Ala Leu Asp
                420   425   430

Asn Gly Gly Leu Ala Arg Arg Ile His Glu Asp Ser Asp Ser Ala Leu
                435   440   445

Gln Leu Gln Asp Phe Tyr Gln Glu Val Ala Asn Pro Leu Leu Thr Ala
    450   455   460

Val Thr Phe Glu Tyr Pro Ser Asn Ala Val Glu Glu Val Thr Gln Asn
465   470   475   480

Asn Phe Arg Leu Leu Phe Lys Gly Ser Glu Met Val Val Ala Gly Lys
                485   490   495

Leu Gln Asp Arg Gly Pro Asp Val Leu Thr Ala Thr Val Ser Gly Lys
                500   505   510

Leu Pro Thr Gln Asn Ile Thr Phe Gln Thr Glu Ser Ser Val Ala Glu
                515   520   525

Gln Glu Ala Glu Phe Gln Ser Pro Lys Tyr Ile Phe His Asn Phe Met
    530   535   540

Glu Arg Leu Trp Ala Tyr Leu Thr Ile Gln Gln Leu Leu Glu Gln Thr
545   550   555   560

Val Ser Ala Ser Asp Ala Asp Gln Gln Ala Leu Arg Asn Gln Ala Leu
                565   570   575

Asn Leu Ser Leu Ala Tyr Ser Phe Val Thr Pro Leu Thr Ser Met Val

```
                    580                        585                        590


Val Thr Lys Pro Asp Asp Gln Glu Gln Ser Gln Val Ala Glu Lys Pro
        595             600                 605


Met Glu Gly Glu Ser Arg Asn Arg Asn Val His Ser Gly Ser Thr Phe
    610             615                 620


Phe Lys Tyr Tyr Leu Gln Gly Ala Lys Ile Pro Lys Pro Glu Ala Ser
625                 630                 635                     640


Phe Ser Pro Arg Arg Gly Trp Asn Arg Gln Ala Gly Ala Ala Gly Ser
            645                 650                     655


Arg Met Asn Phe Arg Pro Gly Val Leu Ser Ser Arg Gln Leu Gly Leu
            660                 665                 670


Pro Gly Pro Pro Asp Val Pro Asp His Ala Ala Tyr His Pro Phe Arg
        675                 680                 685


Arg Leu Ala Ile Leu Pro Ala Ser Ala Pro Pro Ala Thr Ser Asn Pro
    690                 695                 700


Asp Pro Ala Val Ser Arg Val Met Asn Met Lys Ile Glu Glu Thr Thr
705                 710                 715                     720


Met Thr Thr Gln Thr Pro Ala Pro Ile Gln Ala Pro Ser Ala Ile Leu
            725                 730                     735


Pro Leu Pro Gly Gln Ser Val Glu Arg Leu Cys Val Asp Pro Arg His
            740                 745                 750


Arg Gln Gly Pro Val Asn Leu Leu Ser Asp Pro Glu Gln Gly Val Glu
            755                 760                 765


Val Thr Gly Gln Tyr Glu Arg Glu Lys Ala Gly Phe Ser Trp Ile Glu
    770                 775                 780


Val Thr Phe Lys Asn Pro Leu Val Trp Val His Ala Ser Pro Glu His
785                 790                 795                     800


Val Val Val Thr Arg Asn Arg Arg Ser Ser Ala Tyr Lys Trp Lys Glu
            805                 810                 815
```

Thr Leu Phe Ser Val Met Pro Gly Leu Lys Met Thr Met Asp Lys Thr
        820   825   830

Gly Leu Leu Leu Leu Ser Asp Pro Asp Lys Val Thr Ile Gly Leu Leu
        835   840   845

Phe Trp Asp Gly Arg Gly Glu Gly Leu Arg Leu Leu Leu Arg Asp Thr
        850   855   860

Asp Arg Phe Ser Ser His Val Gly Gly Thr Leu Gly Gln Phe Tyr Gln
865   870   875   880

Glu Val Leu Trp Gly Ser Pro Ala Ala Ser Asp Asp Gly Arg Arg Thr
                885   890   895

Leu Arg Val Gln Gly Asn Asp His Ser Ala Thr Arg Glu Arg Arg Leu
        900   905   910

Asp Tyr Gln Glu Gly Pro Pro Gly Val Glu Ile Ser Cys Trp Ser Val
        915   920   925

Glu Leu
    930

<210>   43
<211>   1744
<212>   PRT
<213>   Homo sapiens

<300>
<308>   Swiss-Prot/P01028
<309>   1986-07-21
<313>   (1)..(1744)

<400>   43

Met Arg Leu Leu Trp Gly Leu Ile Trp Ala Ser Ser Phe Phe Thr Leu
1   5   10   15

Ser Leu Gln Lys Pro Arg Leu Leu Leu Phe Ser Pro Ser Val Val His
            20   25   30

Leu Gly Val Pro Leu Ser Val Gly Val Gln Leu Gln Asp Val Pro Arg
        35   40   45

Gly Gln Val Val Lys Gly Ser Val Phe Leu Arg Asn Pro Ser Arg Asn
    50   55   60

Asn Val Pro Cys Ser Pro Lys Val Asp Phe Thr Leu Ser Ser Glu Arg
65   70   75   80

Asp Phe Ala Leu Leu Ser Leu Gln Val Pro Leu Lys Asp Ala Lys Ser
            85   90   95

Cys Gly Leu His Gln Leu Leu Arg Gly Pro Glu Val Gln Leu Val Ala
            100   105   110

His Ser Pro Trp Leu Lys Asp Ser Leu Ser Arg Thr Thr Asn Ile Gln
            115   120   125

Gly Ile Asn Leu Leu Phe Ser Ser Arg Arg Gly His Leu Phe Leu Gln
    130   135   140

Thr Asp Gln Pro Ile Tyr Asn Pro Gly Gln Arg Val Arg Tyr Arg Val
145   150   155   160

Phe Ala Leu Asp Gln Lys Met Arg Pro Ser Thr Asp Thr Ile Thr Val
            165   170   175

Met Val Glu Asn Ser His Gly Leu Arg Val Arg Lys Lys Glu Val Tyr
            180   185   190

Met Pro Ser Ser Ile Phe Gln Asp Asp Phe Val Ile Pro Asp Ile Ser
            195   200   205

Glu Pro Gly Thr Trp Lys Ile Ser Ala Arg Phe Ser Asp Gly Leu Glu
    210   215   220

Ser Asn Ser Ser Thr Gln Phe Glu Val Lys Lys Tyr Val Leu Pro Asn
225   230   235   240

Phe Glu Val Lys Ile Thr Pro Gly Lys Pro Tyr Ile Leu Thr Val Pro
            245   250   255

Gly His Leu Asp Glu Met Gln Leu Asp Ile Gln Ala Arg Tyr Ile Tyr
            260   265   270

Gly Lys Pro Val Gln Gly Val Ala Tyr Val Arg Phe Gly Leu Leu Asp
    275   280   285

Glu Asp Gly Lys Lys Thr Phe Phe Arg Gly Leu Glu Ser Gln Thr Lys
    290   295   300

Leu Val Asn Gly Gln Ser His Ile Ser Leu Ser Lys Ala Glu Phe Gln
305   310   315   320

Asp Ala Leu Glu Lys Leu Asn Met Gly Ile Thr Asp Leu Gln Gly Leu
                325   330   335

Arg Leu Tyr Val Ala Ala Ala Ile Ile Glu Ser Pro Gly Gly Glu Met
            340   345   350

Glu Glu Ala Glu Leu Thr Ser Trp Tyr Phe Val Ser Ser Pro Phe Ser
        355   360   365

Leu Asp Leu Ser Lys Thr Lys Arg His Leu Val Pro Gly Ala Pro Phe
    370   375   380

Leu Leu Gln Ala Leu Val Arg Glu Met Ser Gly Ser Pro Ala Ser Gly
385   390   395   400

Ile Pro Val Lys Val Ser Ala Thr Val Ser Ser Pro Gly Ser Val Pro
                405   410   415

Glu Val Gln Asp Ile Gln Gln Asn Thr Asp Gly Ser Gly Gln Val Ser
            420   425   430

Ile Pro Ile Ile Ile Pro Gln Thr Ile Ser Glu Leu Gln Leu Ser Val
        435   440   445

Ser Ala Gly Ser Pro His Pro Ala Ile Ala Arg Leu Thr Val Ala Ala
    450   455   460

Pro Pro Ser Gly Gly Pro Gly Phe Leu Ser Ile Glu Arg Pro Asp Ser
465   470   475   480

Arg Pro Pro Arg Val Gly Asp Thr Leu Asn Leu Asn Leu Arg Ala Val
                485   490   495

Gly Ser Gly Ala Thr Phe Ser His Tyr Tyr Tyr Met Ile Leu Ser Arg

Gly Gln Ile Val Phe Met Asn Arg Glu Pro Lys Arg Thr Leu Thr Ser
        515   520   525

Val Ser Val Phe Val Asp His His Leu Ala Pro Ser Phe Tyr Phe Val
    530   535   540

Ala Phe Tyr Tyr His Gly Asp His Pro Val Ala Asn Ser Leu Arg Val
545   550   555   560

Asp Val Gln Ala Gly Ala Cys Glu Gly Lys Leu Glu Leu Ser Val Asp
                565   570   575

Gly Ala Lys Gln Tyr Arg Asn Gly Glu Ser Val Lys Leu His Leu Glu
            580   585   590

Thr Asp Ser Leu Ala Leu Val Ala Leu Gly Ala Leu Asp Thr Ala Leu
        595   600   605

Tyr Ala Ala Gly Ser Lys Ser His Lys Pro Leu Asn Met Gly Lys Val
    610   615   620

Phe Glu Ala Met Asn Ser Tyr Asp Leu Gly Cys Gly Pro Gly Gly Gly
625   630   635   640

Asp Ser Ala Leu Gln Val Phe Gln Ala Ala Gly Leu Ala Phe Ser Asp
                645   650   655

Gly Asp Gln Trp Thr Leu Ser Arg Lys Arg Leu Ser Cys Pro Lys Glu
            660   665   670

Lys Thr Thr Arg Lys Lys Arg Asn Val Asn Phe Gln Lys Ala Ile Asn
        675   680   685

Glu Lys Leu Gly Gln Tyr Ala Ser Pro Thr Ala Lys Arg Cys Cys Gln
    690   695   700

Asp Gly Val Thr Arg Leu Pro Met Met Arg Ser Cys Glu Gln Arg Ala
705   710   715   720

Ala Arg Val Gln Gln Pro Asp Cys Arg Glu Pro Phe Leu Ser Cys Cys
                725   730   735

Gln Phe Ala Glu Ser Leu Arg Lys Lys Ser Arg Asp Lys Gly Gln Ala
            740   745   750

Gly Leu Gln Arg Ala Leu Glu Ile Leu Gln Glu Glu Asp Leu Ile Asp
            755   760   765

Glu Asp Asp Ile Pro Val Arg Ser Phe Phe Pro Glu Asn Trp Leu Trp
    770   775   780

Arg Val Glu Thr Val Asp Arg Phe Gln Ile Leu Thr Leu Trp Leu Pro
785   790   795   800

Asp Ser Leu Thr Thr Trp Glu Ile His Gly Leu Ser Leu Ser Lys Thr
                805   810   815

Lys Gly Leu Cys Val Ala Thr Pro Val Gln Leu Arg Val Phe Arg Glu
            820   825   830

Phe His Leu His Leu Arg Leu Pro Met Ser Val Arg Arg Phe Glu Gln
        835   840   845

Leu Glu Leu Arg Pro Val Leu Tyr Asn Tyr Leu Asp Lys Asn Leu Thr
    850   855   860

Val Ser Val His Val Ser Pro Val Glu Gly Leu Cys Leu Ala Gly Gly
865   870   875   880

Gly Gly Leu Ala Gln Gln Val Leu Val Pro Ala Gly Ser Ala Arg Pro
                885   890   895

Val Ala Phe Ser Val Val Pro Thr Ala Ala Ala Val Ser Leu Lys
            900   905   910

Val Val Ala Arg Gly Ser Phe Glu Phe Pro Val Gly Asp Ala Val Ser
            915   920   925

Lys Val Leu Gln Ile Glu Lys Glu Gly Ala Ile His Arg Glu Glu Leu
    930   935   940

Val Tyr Glu Leu Asn Pro Leu Asp His Arg Gly Arg Thr Leu Glu Ile
945   950   955   960

Pro Gly Asn Ser Asp Pro Asn Met Ile Pro Asp Gly Asp Phe Asn Ser
        965   970   975

Tyr Val Arg Val Thr Ala Ser Asp Pro Leu Asp Thr Leu Gly Ser Glu
        980   985   990

Gly Ala Leu Ser Pro Gly Gly Val Ala Ser Leu Leu Arg Leu Pro Arg
        995   1000   1005

Gly Cys Gly Glu Gln Thr Met Ile Tyr Leu Ala Pro Thr Leu Ala
     1010   1015   1020

Ala Ser Arg Tyr Leu Asp Lys Thr Glu Gln Trp Ser Thr Leu Pro
     1025   1030   1035

Pro Glu Thr Lys Asp His Ala Val Asp Leu Ile Gln Lys Gly Tyr
     1040   1045   1050

Met Arg Ile Gln Gln Phe Arg Lys Ala Asp Gly Ser Tyr Ala Ala
     1055   1060   1065

Trp Leu Ser Arg Asp Ser Ser Thr Trp Leu Thr Ala Phe Val Leu
     1070   1075   1080

Lys Val Leu Ser Leu Ala Gln Glu Gln Val Gly Gly Ser Pro Glu
     1085   1090   1095

Lys Leu Gln Glu Thr Ser Asn Trp Leu Leu Ser Gln Gln Gln Ala
     1100   1105   1110

Asp Gly Ser Phe Gln Asp Pro Cys Pro Val Leu Asp Arg Ser Met
     1115   1120   1125

Gln Gly Gly Leu Val Gly Asn Asp Glu Thr Val Ala Leu Thr Ala
     1130   1135   1140

Phe Val Thr Ile Ala Leu His His Gly Leu Ala Val Phe Gln Asp
     1145   1150   1155

Glu Gly Ala Glu Pro Leu Lys Gln Arg Val Glu Ala Ser Ile Ser
     1160   1165   1170

Lys Ala Asn Ser Phe Leu Gly Glu Lys Ala Ser Ala Gly Leu Leu
    1175   1180   1185

Gly Ala His Ala Ala Ala Ile Thr Ala Tyr Ala Leu Ser Leu Thr
    1190   1195   1200

Lys Ala Pro Val Asp Leu Leu Gly Val Ala His Asn Asn Leu Met
    1205   1210   1215

Ala Met Ala Gln Glu Thr Gly Asp Asn Leu Tyr Trp Gly Ser Val
    1220   1225   1230

Thr Gly Ser Gln Ser Asn Ala Val Ser Pro Thr Pro Ala Pro Arg
    1235   1240   1245

Asn Pro Ser Asp Pro Met Pro Gln Ala Pro Ala Leu Trp Ile Glu
    1250   1255   1260

Thr Thr Ala Tyr Ala Leu Leu His Leu Leu Leu His Glu Gly Lys
    1265   1270   1275

Ala Glu Met Ala Asp Gln Ala Ser Ala Trp Leu Thr Arg Gln Gly
    1280   1285   1290

Ser Phe Gln Gly Gly Phe Arg Ser Thr Gln Asp Thr Val Ile Ala
    1295   1300   1305

Leu Asp Ala Leu Ser Ala Tyr Trp Ile Ala Ser His Thr Thr Glu
    1310   1315   1320

Glu Arg Gly Leu Asn Val Thr Leu Ser Ser Thr Gly Arg Asn Gly
    1325   1330   1335

Phe Lys Ser His Ala Leu Gln Leu Asn Asn Arg Gln Ile Arg Gly
    1340   1345   1350

Leu Glu Glu Glu Leu Gln Phe Ser Leu Gly Ser Lys Ile Asn Val
    1355   1360   1365

Lys Val Gly Gly Asn Ser Lys Gly Thr Leu Lys Val Leu Arg Thr
    1370   1375   1380

Tyr Asn Val Leu Asp Met Lys Asn Thr Thr Cys Gln Asp Leu Gln

```
              1385                      1390                      1395


Ile Glu  Val Thr Val Lys Gly  His Val Glu Tyr Thr  Met Glu Ala
         1400                      1405                      1410


Asn Glu  Asp Tyr Glu Asp Tyr  Glu Tyr Asp Glu Leu  Pro Ala Lys
         1415                      1420                      1425


Asp Asp  Pro Asp Ala Pro Leu  Gln Pro Val Thr Pro  Leu Gln Leu
         1430                      1435                      1440


Phe Glu  Gly Arg Arg Asn Arg  Arg Arg Arg Glu Ala  Pro Lys Val
         1445                      1450                      1455


Val Glu  Glu Gln Glu Ser Arg  Val His Tyr Thr Val  Cys Ile Trp
         1460                      1465                      1470


Arg Asn  Gly Lys Val Gly Leu  Ser Gly Met Ala Ile  Ala Asp Val
         1475                      1480                      1485


Thr Leu  Leu Ser Gly Phe His  Ala Leu Arg Ala Asp  Leu Glu Lys
         1490                      1495                      1500


Leu Thr  Ser Leu Ser Asp Arg  Tyr Val Ser His Phe  Glu Thr Glu
         1505                      1510                      1515


Gly Pro  His Val Leu Leu Tyr  Phe Asp Ser Val Pro  Thr Ser Arg
         1520                      1525                      1530


Glu Cys  Val Gly Phe Glu Ala  Val Gln Glu Val Pro  Val Gly Leu
         1535                      1540                      1545


Val Gln  Pro Ala Ser Ala Thr  Leu Tyr Asp Tyr Tyr  Asn Pro Glu
         1550                      1555                      1560


Arg Arg  Cys Ser Val Phe Tyr  Gly Ala Pro Ser Lys  Ser Arg Leu
         1565                      1570                      1575


Leu Ala  Thr Leu Cys Ser Ala  Glu Val Cys Gln Cys  Ala Glu Gly
         1580                      1585                      1590


Lys Cys  Pro Arg Gln Arg Arg  Ala Leu Glu Arg Gly  Leu Gln Asp
         1595                      1600                      1605
```

```
Glu Asp  Gly Tyr Arg Met Lys  Phe Ala Cys Tyr Tyr  Pro Arg Val
    1610              1615              1620

Glu Tyr  Gly Phe Gln Val Lys  Val Leu Arg Glu Asp  Ser Arg Ala
    1625              1630              1635

Ala Phe  Arg Leu Phe Glu Thr  Lys Ile Thr Gln Val  Leu His Phe
    1640              1645              1650

Thr Lys  Asp Val Lys Ala Ala  Ala Asn Gln Met Arg  Asn Phe Leu
    1655              1660              1665

Val Arg  Ala Ser Cys Arg Leu  Arg Leu Glu Pro Gly  Lys Glu Tyr
    1670              1675              1680

Leu Ile  Met Gly Leu Asp Gly  Ala Thr Tyr Asp Leu  Glu Gly His
    1685              1690              1695

Pro Gln  Tyr Leu Leu Asp Ser  Asn Ser Trp Ile Glu  Glu Met Pro
    1700              1705              1710

Ser Glu  Arg Leu Cys Arg Ser  Thr Arg Gln Arg Ala  Ala Cys Ala
    1715              1720              1725

Gln Leu  Asn Asp Phe Leu Gln  Glu Tyr Gly Thr Gln  Gly Cys Gln
    1730              1735              1740

Val


<210>   44
<211>   1663
<212>   PRT
<213>   Homo sapiens

<300>
<308>   Swiss-Prot/P01024
<309>   1986-07-21
<313>   (1)..(1663)

<400>   44

Met Gly Pro Thr Ser Gly Pro Ser Leu Leu Leu Leu Leu Leu Thr His
1                5                 10                    15
```

Leu Pro Leu Ala Leu Gly Ser Pro Met Tyr Ser Ile Ile Thr Pro Asn
        20   25   30

Ile Leu Arg Leu Glu Ser Glu Glu Thr Met Val Leu Glu Ala His Asp
        35   40   45

Ala Gln Gly Asp Val Pro Val Thr Val Thr Val His Asp Phe Pro Gly
        50   55   60

Lys Lys Leu Val Leu Ser Ser Glu Lys Thr Val Leu Thr Pro Ala Thr
65   70   75   80

Asn His Met Gly Asn Val Thr Phe Thr Ile Pro Ala Asn Arg Glu Phe
                85   90   95

Lys Ser Glu Lys Gly Arg Asn Lys Phe Val Thr Val Gln Ala Thr Phe
                100   105   110

Gly Thr Gln Val Val Glu Lys Val Val Leu Val Ser Leu Gln Ser Gly
        115   120   125

Tyr Leu Phe Ile Gln Thr Asp Lys Thr Ile Tyr Thr Pro Gly Ser Thr
    130   135   140

Val Leu Tyr Arg Ile Phe Thr Val Asn His Lys Leu Leu Pro Val Gly
145   150   155   160

Arg Thr Val Met Val Asn Ile Glu Asn Pro Glu Gly Ile Pro Val Lys
                165   170   175

Gln Asp Ser Leu Ser Ser Gln Asn Gln Leu Gly Val Leu Pro Leu Ser
                180   185   190

Trp Asp Ile Pro Glu Leu Val Asn Met Gly Gln Trp Lys Ile Arg Ala
                195   200   205

Tyr Tyr Glu Asn Ser Pro Gln Gln Val Phe Ser Thr Glu Phe Glu Val
    210   215   220

Lys Glu Tyr Val Leu Pro Ser Phe Glu Val Ile Val Glu Pro Thr Glu
225   230   235   240

Lys Phe Tyr Tyr Ile Tyr Asn Glu Lys Gly Leu Glu Val Thr Ile Thr
                245   250   255

Ala Arg Phe Leu Tyr Gly Lys Lys Val Glu Gly Thr Ala Phe Val Ile
            260   265   270

Phe Gly Ile Gln Asp Gly Glu Gln Arg Ile Ser Leu Pro Glu Ser Leu
            275   280   285

Lys Arg Ile Pro Ile Glu Asp Gly Ser Gly Glu Val Val Leu Ser Arg
        290   295   300

Lys Val Leu Leu Asp Gly Val Gln Asn Leu Arg Ala Glu Asp Leu Val
305   310   315   320

Gly Lys Ser Leu Tyr Val Ser Ala Thr Val Ile Leu His Ser Gly Ser
                325   330   335

Asp Met Val Gln Ala Glu Arg Ser Gly Ile Pro Ile Val Thr Ser Pro
            340   345   350

Tyr Gln Ile His Phe Thr Lys Thr Pro Lys Tyr Phe Lys Pro Gly Met
            355   360   365

Pro Phe Asp Leu Met Val Phe Val Thr Asn Pro Asp Gly Ser Pro Ala
        370   375   380

Tyr Arg Val Pro Val Ala Val Gln Gly Glu Asp Thr Val Gln Ser Leu
385   390   395   400

Thr Gln Gly Asp Gly Val Ala Lys Leu Ser Ile Asn Thr His Pro Ser
            405   410   415

Gln Lys Pro Leu Ser Ile Thr Val Arg Thr Lys Lys Gln Glu Leu Ser
            420   425   430

Glu Ala Glu Gln Ala Thr Arg Thr Met Gln Ala Leu Pro Tyr Ser Thr
            435   440   445

Val Gly Asn Ser Asn Asn Tyr Leu His Leu Ser Val Leu Arg Thr Glu
450   455   460

Leu Arg Pro Gly Glu Thr Leu Asn Val Asn Phe Leu Leu Arg Met Asp

Arg Ala His Glu Ala Lys Ile Arg Tyr Tyr Thr Tyr Leu Ile Met Asn
            485   490   495

Lys Gly Arg Leu Leu Lys Ala Gly Arg Gln Val Arg Glu Pro Gly Gln
            500   505   510

Asp Leu Val Val Leu Pro Leu Ser Ile Thr Thr Asp Phe Ile Pro Ser
            515   520   525

Phe Arg Leu Val Ala Tyr Tyr Thr Leu Ile Gly Ala Ser Gly Gln Arg
    530   535   540

Glu Val Val Ala Asp Ser Val Trp Val Asp Val Lys Asp Ser Cys Val
545   550   555   560

Gly Ser Leu Val Val Lys Ser Gly Gln Ser Glu Asp Arg Gln Pro Val
            565   570   575

Pro Gly Gln Gln Met Thr Leu Lys Ile Glu Gly Asp His Gly Ala Arg
            580   585   590

Val Val Leu Val Ala Val Asp Lys Gly Val Phe Val Leu Asn Lys Lys
            595   600   605

Asn Lys Leu Thr Gln Ser Lys Ile Trp Asp Val Val Glu Lys Ala Asp
    610   615   620

Ile Gly Cys Thr Pro Gly Ser Gly Lys Asp Tyr Ala Gly Val Phe Ser
625   630   635   640

Asp Ala Gly Leu Thr Phe Thr Ser Ser Ser Gly Gln Gln Thr Ala Gln
            645   650   655

Arg Ala Glu Leu Gln Cys Pro Gln Pro Ala Ala Arg Arg Arg Arg Ser
            660   665   670

Val Gln Leu Thr Glu Lys Arg Met Asp Lys Val Gly Lys Tyr Pro Lys
    675   680   685

Glu Leu Arg Lys Cys Cys Glu Asp Gly Met Arg Glu Asn Pro Met Arg
    690   695   700

Phe Ser Cys Gln Arg Arg Thr Arg Phe Ile Ser Leu Gly Glu Ala Cys
705   710   715   720

Lys Lys Val Phe Leu Asp Cys Cys Asn Tyr Ile Thr Glu Leu Arg Arg
              725   730   735

Gln His Ala Arg Ala Ser His Leu Gly Leu Ala Arg Ser Asn Leu Asp
              740   745   750

Glu Asp Ile Ile Ala Glu Glu Asn Ile Val Ser Arg Ser Glu Phe Pro
          755   760   765

Glu Ser Trp Leu Trp Asn Val Glu Asp Leu Lys Glu Pro Pro Lys Asn
          770   775   780

Gly Ile Ser Thr Lys Leu Met Asn Ile Phe Leu Lys Asp Ser Ile Thr
785   790   795   800

Thr Trp Glu Ile Leu Ala Val Ser Met Ser Asp Lys Lys Gly Ile Cys
              805   810   815

Val Ala Asp Pro Phe Glu Val Thr Val Met Gln Asp Phe Phe Ile Asp
              820   825   830

Leu Arg Leu Pro Tyr Ser Val Val Arg Asn Glu Gln Val Glu Ile Arg
          835   840   845

Ala Val Leu Tyr Asn Tyr Arg Gln Asn Gln Glu Leu Lys Val Arg Val
          850   855   860

Glu Leu Leu His Asn Pro Ala Phe Cys Ser Leu Ala Thr Thr Lys Arg
865   870   875   880

Arg His Gln Gln Thr Val Thr Ile Pro Pro Lys Ser Ser Leu Ser Val
              885   890   895

Pro Tyr Val Ile Val Pro Leu Lys Thr Gly Leu Gln Glu Val Glu Val
              900   905   910

Lys Ala Ala Val Tyr His His Phe Ile Ser Asp Gly Val Arg Lys Ser
              915   920   925

Leu Lys Val Val Pro Glu Gly Ile Arg Met Asn Lys Thr Val Ala Val
    930   935   940

Arg Thr Leu Asp Pro Glu Arg Leu Gly Arg Glu Gly Val Gln Lys Glu
945   950   955   960

Asp Ile Pro Pro Ala Asp Leu Ser Asp Gln Val Pro Asp Thr Glu Ser
                965   970   975

Glu Thr Arg Ile Leu Leu Gln Gly Thr Pro Val Ala Gln Met Thr Glu
            980   985   990

Asp Ala Val Asp Ala Glu Arg Leu Lys His Leu Ile Val Thr Pro Ser
        995   1000   1005

Gly Cys Gly Glu Gln Asn Met Ile Gly Met Thr Pro Thr Val Ile
    1010   1015   1020

Ala Val His Tyr Leu Asp Glu Thr Glu Gln Trp Glu Lys Phe Gly
    1025   1030   1035

Leu Glu Lys Arg Gln Gly Ala Leu Glu Leu Ile Lys Lys Gly Tyr
    1040   1045   1050

Thr Gln Gln Leu Ala Phe Arg Gln Pro Ser Ser Ala Phe Ala Ala
    1055   1060   1065

Phe Val Lys Arg Ala Pro Ser Thr Trp Leu Thr Ala Tyr Val Val
    1070   1075   1080

Lys Val Phe Ser Leu Ala Val Asn Leu Ile Ala Ile Asp Ser Gln
    1085   1090   1095

Val Leu Cys Gly Ala Val Lys Trp Leu Ile Leu Glu Lys Gln Lys
    1100   1105   1110

Pro Asp Gly Val Phe Gln Glu Asp Ala Pro Val Ile His Gln Glu
    1115   1120   1125

Met Ile Gly Gly Leu Arg Asn Asn Asn Glu Lys Asp Met Ala Leu
    1130   1135   1140

Thr Ala Phe Val Leu Ile Ser Leu Gln Glu Ala Lys Asp Ile Cys
    1145   1150   1155

Glu Glu Gln Val Asn Ser Leu Pro Gly Ser Ile Thr Lys Ala Gly
    1160   1165   1170

Asp Phe Leu Glu Ala Asn Tyr Met Asn Leu Gln Arg Ser Tyr Thr
    1175   1180   1185

Val Ala Ile Ala Gly Tyr Ala Leu Ala Gln Met Gly Arg Leu Lys
    1190   1195   1200

Gly Pro Leu Leu Asn Lys Phe Leu Thr Thr Ala Lys Asp Lys Asn
    1205   1210   1215

Arg Trp Glu Asp Pro Gly Lys Gln Leu Tyr Asn Val Glu Ala Thr
    1220   1225   1230

Ser Tyr Ala Leu Leu Ala Leu Leu Gln Leu Lys Asp Phe Asp Phe
    1235   1240   1245

Val Pro Pro Val Val Arg Trp Leu Asn Glu Gln Arg Tyr Tyr Gly
    1250   1255   1260

Gly Gly Tyr Gly Ser Thr Gln Ala Thr Phe Met Val Phe Gln Ala
    1265   1270   1275

Leu Ala Gln Tyr Gln Lys Asp Ala Pro Asp His Gln Glu Leu Asn
    1280   1285   1290

Leu Asp Val Ser Leu Gln Leu Pro Ser Arg Ser Ser Lys Ile Thr
    1295   1300   1305

His Arg Ile His Trp Glu Ser Ala Ser Leu Leu Arg Ser Glu Glu
    1310   1315   1320

Thr Lys Glu Asn Glu Gly Phe Thr Val Thr Ala Glu Gly Lys Gly
    1325   1330   1335

Gln Gly Thr Leu Ser Val Val Thr Met Tyr His Ala Lys Ala Lys
    1340   1345   1350

Asp Gln Leu Thr Cys Asn Lys Phe Asp Leu Lys Val Thr Ile Lys

```
       1355                          1360                        1365


Pro Ala  Pro Glu Thr Glu Lys  Arg Pro Gln Asp Ala  Lys Asn Thr
    1370                 1375                 1380

Met Ile  Leu Glu Ile Cys Thr  Arg Tyr Arg Gly Asp  Gln Asp Ala
    1385                 1390                 1395

Thr Met  Ser Ile Leu Asp Ile  Ser Met Met Thr Gly  Phe Ala Pro
    1400                 1405                 1410

Asp Thr  Asp Asp Leu Lys Gln  Leu Ala Asn Gly Val  Asp Arg Tyr
    1415                 1420                 1425

Ile Ser  Lys Tyr Glu Leu Asp  Lys Ala Phe Ser Asp  Arg Asn Thr
    1430                 1435                 1440

Leu Ile  Ile Tyr Leu Asp Lys  Val Ser His Ser Glu  Asp Asp Cys
    1445                 1450                 1455

Leu Ala  Phe Lys Val His Gln  Tyr Phe Asn Val Glu  Leu Ile Gln
    1460                 1465                 1470

Pro Gly  Ala Val Lys Val Tyr  Ala Tyr Tyr Asn Leu  Glu Glu Ser
    1475                 1480                 1485

Cys Thr  Arg Phe Tyr His Pro  Glu Lys Glu Asp Gly  Lys Leu Asn
    1490                 1495                 1500

Lys Leu  Cys Arg Asp Glu Leu  Cys Arg Cys Ala Glu  Glu Asn Cys
    1505                 1510                 1515

Phe Ile  Gln Lys Ser Asp Asp  Lys Val Thr Leu Glu  Glu Arg Leu
    1520                 1525                 1530

Asp Lys  Ala Cys Glu Pro Gly  Val Asp Tyr Val Tyr  Lys Thr Arg
    1535                 1540                 1545

Leu Val  Lys Val Gln Leu Ser  Asn Asp Phe Asp Glu  Tyr Ile Met
    1550                 1555                 1560

Ala Ile  Glu Gln Thr Ile Lys  Ser Gly Ser Asp Glu  Val Gln Val
    1565                 1570                 1575
```

Gly Gln Gln Arg Thr Phe Ile Ser Pro Ile Lys Cys Arg Glu Ala
    1580   1585   1590

Leu Lys Leu Glu Glu Lys Lys His Tyr Leu Met Trp Gly Leu Ser
    1595   1600   1605

Ser Asp Phe Trp Gly Glu Lys Pro Asn Leu Ser Tyr Ile Ile Gly
    1610   1615   1620

Lys Asp Thr Trp Val Glu His Trp Pro Glu Glu Asp Glu Cys Gln
    1625   1630   1635

Asp Glu Glu Asn Gln Lys Gln Cys Gln Asp Leu Gly Ala Phe Thr
    1640   1645   1650

Glu Ser Met Val Val Phe Gly Cys Pro Asn
    1655   1660

<210> 45
<211> 93
<212> PRT
<213> Homo sapiens

<300>
<308> Swiss-Prot/Q9H299
<309> 2003-02-28
<313> (1)..(93)

<400> 45

Met Ser Gly Leu Arg Val Tyr Ser Thr Ser Val Thr Gly Ser Arg Glu
1   5   10   15

Ile Lys Ser Gln Gln Ser Glu Val Thr Arg Ile Leu Asp Gly Lys Arg
            20   25   30

Ile Gln Tyr Gln Leu Val Asp Ile Ser Gln Asp Asn Ala Leu Arg Asp
        35   40   45

Glu Met Arg Ala Leu Ala Gly Asn Pro Lys Ala Thr Pro Pro Gln Ile
    50   55   60

Val Asn Gly Asp Gln Tyr Cys Gly Asp Tyr Glu Leu Phe Val Glu Ala
65   70   75   80

Val Glu Gln Asn Thr Leu Gln Glu Phe Leu Lys Leu Ala
                85   90

<210> 46
<211> 567
<212> PRT
<213> Homo sapiens

<300>
<308> Swiss-Prot/Q96RQ9
<309> 2003-02-28
<313> (1)..(567)

<400> 46

Met Ala Pro Leu Ala Leu His Leu Leu Val Leu Val Pro Ile Leu Leu
1   5   10   15

Ser Leu Val Ala Ser Gln Asp Trp Lys Ala Glu Arg Ser Gln Asp Pro
            20   25   30

Phe Glu Lys Cys Met Gln Asp Pro Asp Tyr Glu Gln Leu Leu Lys Val
        35   40   45

Val Thr Trp Gly Leu Asn Arg Thr Leu Lys Pro Gln Arg Val Ile Val
    50   55   60

Val Gly Ala Gly Val Ala Gly Leu Val Ala Ala Lys Val Leu Ser Asp
65   70   75   80

Ala Gly His Lys Val Thr Ile Leu Glu Ala Asp Asn Arg Ile Gly Gly
                85   90   95

Arg Ile Phe Thr Tyr Arg Asp Gln Asn Thr Gly Trp Ile Gly Glu Leu
                100   105   110

Gly Ala Met Arg Met Pro Ser Ser His Arg Ile Leu His Lys Leu Cys
        115   120   125

Gln Gly Leu Gly Leu Asn Leu Thr Lys Phe Thr Gln Tyr Asp Lys Asn
    130   135   140

Thr Trp Thr Glu Val His Glu Val Lys Leu Arg Asn Tyr Val Val Glu
145   150   155   160

Lys Val Pro Glu Lys Leu Gly Tyr Ala Leu Arg Pro Gln Glu Lys Gly
            165   170   175

His Ser Pro Glu Asp Ile Tyr Gln Met Ala Leu Asn Gln Ala Leu Lys
            180   185   190

Asp Leu Lys Ala Leu Gly Cys Arg Lys Ala Met Lys Lys Phe Glu Arg
            195   200   205

His Thr Leu Leu Glu Tyr Leu Leu Gly Glu Gly Asn Leu Ser Arg Pro
    210   215   220

Ala Val Gln Leu Leu Gly Asp Val Met Ser Glu Asp Gly Phe Phe Tyr
225   230   235   240

Leu Ser Phe Ala Glu Ala Leu Arg Ala His Ser Cys Leu Ser Asp Arg
            245   250   255

Leu Gln Tyr Ser Arg Ile Val Gly Gly Trp Asp Leu Leu Pro Arg Ala
            260   265   270

Leu Leu Ser Ser Leu Ser Gly Leu Val Leu Leu Asn Ala Pro Val Val
            275   280   285

Ala Met Thr Gln Gly Pro His Asp Val His Val Gln Ile Glu Thr Ser
            290   295   300

Pro Pro Ala Arg Asn Leu Lys Val Leu Lys Ala Asp Val Val Leu Leu
305   310   315   320

Thr Ala Ser Gly Pro Ala Val Lys Arg Ile Thr Phe Ser Pro Pro Leu
            325   330   335

Pro Arg His Met Gln Glu Ala Leu Arg Arg Leu His Tyr Val Pro Ala
            340   345   350

Thr Lys Val Phe Leu Ser Phe Arg Arg Pro Phe Trp Arg Glu Glu His
            355   360   365

Ile Glu Gly Gly His Ser Asn Thr Asp Arg Pro Ser Arg Met Ile Phe
    370   375   380

Tyr Pro Pro Pro Arg Glu Gly Ala Leu Leu Leu Ala Ser Tyr Thr Trp

Ser Asp Ala Ala Ala Ala Phe Ala Gly Leu Ser Arg Glu Glu Ala Leu
            405   410   415

Arg Leu Ala Leu Asp Asp Val Ala Ala Leu His Gly Pro Val Val Arg
            420   425   430

Gln Leu Trp Asp Gly Thr Gly Val Val Lys Arg Trp Ala Glu Asp Gln
            435   440   445

His Ser Gln Gly Gly Phe Val Val Gln Pro Pro Ala Leu Trp Gln Thr
    450   455   460

Glu Lys Asp Asp Trp Thr Val Pro Tyr Gly Arg Ile Tyr Phe Ala Gly
465   470   475   480

Glu His Thr Ala Tyr Pro His Gly Trp Val Glu Thr Ala Val Lys Ser
                485   490   495

Ala Leu Arg Ala Ala Ile Lys Ile Asn Ser Arg Lys Gly Pro Ala Ser
            500   505   510

Asp Thr Ala Ser Pro Glu Gly His Ala Ser Asp Met Glu Gly Gln Gly
            515   520   525

His Val His Gly Val Ala Ser Ser Pro Ser His Asp Leu Ala Lys Glu
    530   535   540

Glu Gly Ser His Pro Pro Val Gln Gly Gln Leu Ser Leu Gln Asn Thr
545   550   555   560

Thr His Thr Arg Thr Ser His
                565

<210> 47
<211> 462
<212> PRT
<213> Homo sapiens

<300>
<308> Swiss-Prot/P02790
<309> 1986-07-21
<313> (1)..(462)

<400> 47

Met Ala Arg Val Leu Gly Ala Pro Val Ala Leu Gly Leu Trp Ser Leu
1   5   10   15

Cys Trp Ser Leu Ala Ile Ala Thr Pro Leu Pro Pro Thr Ser Ala His
            20   25   30

Gly Asn Val Ala Glu Gly Glu Thr Lys Pro Asp Pro Asp Val Thr Glu
        35   40   45

Arg Cys Ser Asp Gly Trp Ser Phe Asp Ala Thr Thr Leu Asp Asp Asn
    50   55   60

Gly Thr Met Leu Phe Phe Lys Gly Glu Phe Val Trp Lys Ser His Lys
65   70   75   80

Trp Asp Arg Glu Leu Ile Ser Glu Arg Trp Lys Asn Phe Pro Ser Pro
                85   90   95

Val Asp Ala Ala Phe Arg Gln Gly His Asn Ser Val Phe Leu Ile Lys
            100   105   110

Gly Asp Lys Val Trp Val Tyr Pro Pro Glu Lys Lys Glu Lys Gly Tyr
        115   120   125

Pro Lys Leu Leu Gln Asp Glu Phe Pro Gly Ile Pro Ser Pro Leu Asp
    130   135   140

Ala Ala Val Glu Cys His Arg Gly Glu Cys Gln Ala Glu Gly Val Leu
145   150   155   160

Phe Phe Gln Gly Asp Arg Glu Trp Phe Trp Asp Leu Ala Thr Gly Thr
                165   170   175

Met Lys Glu Arg Ser Trp Pro Ala Val Gly Asn Cys Ser Ser Ala Leu
            180   185   190

Arg Trp Leu Gly Arg Tyr Tyr Cys Phe Gln Gly Asn Gln Phe Leu Arg
        195   200   205

Phe Asp Pro Val Arg Gly Glu Val Pro Pro Arg Tyr Pro Arg Asp Val
210   215   220

Arg Asp Tyr Phe Met Pro Cys Pro Gly Arg Gly His Gly His Arg Asn
225   230   235   240

Gly Thr Gly His Gly Asn Ser Thr His His Gly Pro Glu Tyr Met Arg
            245   250   255

Cys Ser Pro His Leu Val Leu Ser Ala Leu Thr Ser Asp Asn His Gly
            260   265   270

Ala Thr Tyr Ala Phe Ser Gly Thr His Tyr Trp Arg Leu Asp Thr Ser
        275   280   285

Arg Asp Gly Trp His Ser Trp Pro Ile Ala His Gln Trp Pro Gln Gly
    290   295   300

Pro Ser Ala Val Asp Ala Ala Phe Ser Trp Glu Glu Lys Leu Tyr Leu
305   310   315   320

Val Gln Gly Thr Gln Val Tyr Val Phe Leu Thr Lys Gly Gly Tyr Thr
            325   330   335

Leu Val Ser Gly Tyr Pro Lys Arg Leu Glu Lys Glu Val Gly Thr Pro
            340   345   350

His Gly Ile Ile Leu Asp Ser Val Asp Ala Ala Phe Ile Cys Pro Gly
            355   360   365

Ser Ser Arg Leu His Ile Met Ala Gly Arg Arg Leu Trp Trp Leu Asp
    370   375   380

Leu Lys Ser Gly Ala Gln Ala Thr Trp Thr Glu Leu Pro Trp Pro His
385   390   395   400

Glu Lys Val Asp Gly Ala Leu Cys Met Glu Lys Ser Leu Gly Pro Asn
            405   410   415

Ser Cys Ser Ala Asn Gly Pro Gly Leu Tyr Leu Ile His Gly Pro Asn
            420   425   430

Leu Tyr Cys Tyr Ser Asp Val Glu Lys Leu Asn Ala Ala Lys Ala Leu
    435   440   445

Pro Gln Pro Gln Asn Val Thr Ser Leu Leu Gly Cys Thr His
    450   455   460

<210>   48
<211>   369
<212>   PRT
<213>   Homo sapiens

<300>
<308>   Swiss-Prot/P50502
<309>   1996-10-02
<313>   (1)..(369)

<400>   48

Met Asp Pro Arg Lys Val Asn Glu Leu Arg Ala Phe Val Lys Met Cys
1   5   10   15

Lys Gln Asp Pro Ser Val Leu His Thr Glu Glu Met Arg Phe Leu Arg
                20   25   30

Glu Trp Val Glu Ser Met Gly Gly Lys Val Pro Pro Ala Thr Gln Lys
            35   40   45

Ala Lys Ser Glu Glu Asn Thr Lys Glu Glu Lys Pro Asp Ser Lys Lys
    50   55   60

Val Glu Glu Asp Leu Lys Ala Asp Glu Pro Ser Ser Glu Glu Ser Asp
65   70   75   80

Leu Glu Ile Asp Lys Glu Gly Val Ile Glu Pro Asp Thr Asp Ala Pro
                85   90   95

Gln Glu Met Gly Asp Glu Asn Ala Glu Ile Thr Glu Glu Met Met Asp
                100   105   110

Gln Ala Asn Asp Lys Lys Val Ala Ala Ile Glu Ala Leu Asn Asp Gly
            115   120   125

Glu Leu Gln Lys Ala Ile Asp Leu Phe Thr Asp Ala Ile Lys Leu Asn
    130   135   140

Pro Arg Leu Ala Ile Leu Tyr Ala Lys Arg Ala Ser Val Phe Val Lys
145   150   155   160

Leu Gln Lys Pro Asn Ala Ala Ile Arg Asp Cys Asp Arg Ala Ile Glu

Ile Asn Pro Asp Ser Ala Gln Pro Tyr Lys Trp Arg Gly Lys Ala His
        180   185   190

Arg Leu Leu Gly His Trp Glu Glu Ala Ala His Asp Leu Ala Leu Ala
        195   200   205

Cys Lys Leu Asp Tyr Asp Glu Asp Ala Ser Ala Met Leu Lys Glu Val
        210   215   220

Gln Pro Arg Ala Gln Lys Ile Ala Glu His Arg Arg Lys Tyr Glu Arg
225   230   235   240

Lys Arg Glu Glu Arg Glu Ile Lys Glu Arg Ile Glu Arg Val Lys Lys
                245   250   255

Ala Arg Glu Glu His Glu Arg Ala Gln Arg Glu Glu Glu Ala Arg Arg
        260   265   270

Gln Ser Gly Ala Gln Tyr Gly Ser Phe Pro Gly Gly Phe Pro Gly Gly
        275   280   285

Met Pro Gly Asn Phe Pro Gly Gly Met Pro Gly Met Gly Gly Gly Met
        290   295   300

Pro Gly Met Ala Gly Met Pro Gly Leu Asn Glu Ile Leu Ser Asp Pro
305   310   315   320

Glu Val Leu Ala Ala Met Gln Asp Pro Glu Val Met Val Ala Phe Gln
                325   330   335

Asp Val Ala Gln Asn Pro Ala Asn Met Ser Lys Tyr Gln Ser Asn Pro
                340   345   350

Lys Val Met Asn Leu Ile Ser Lys Leu Ser Ala Lys Phe Gly Gly Gln
        355   360   365

Ala

<210> 49
<211> 9

<212> PRT
<213> Homo sapiens

<400> 49

Met Gln Leu Met His Ala Asn Ala Gln
1   5

<210> 50
<211> 9
<212> PRT
<213> Homo sapiens

<400> 50

Leu Thr Leu Asp Ser Asn Thr Lys Tyr
1   5

<210> 51
<211> 9
<212> PRT
<213> Homo sapiens

<400> 51

Phe Val Ile Asp Lys Ser Gly Ser Met
1   5

<210> 52
<211> 9
<212> PRT
<213> Homo sapiens

<400> 52

Tyr Leu Leu Asp Ser Asn Ser Trp Ile
1   5

<210> 53
<211> 9
<212> PRT
<213> Homo sapiens

<400> 53

Tyr Glu Leu Asp Lys Ala Phe Ser Asp
1   5

<210> 54
<211> 9
<212> PRT
<213> Homo sapiens

<400> 54

Ile Lys Ser Gln Gln Ser Glu Val Thr
1   5

<210> 55
<211> 9
<212> PRT
<213> Homo sapiens

<400> 55

Val Gln Ile Glu Thr Ser Pro Pro Ala
1   5

<210> 56
<211> 9
<212> PRT
<213> Homo sapiens

<400> 56

Ile Ile Leu Asp Ser Val Asp Ala Ala
1   5

<210> 57
<211> 9
<212> PRT
<213> Homo sapiens

<400> 57

Ile Glu Pro Asp Thr Asp Ala Pro Gln
1   5

<210> 58
<211> 17
<212> PRT
<213> Homo sapiens

<400> 58

Asn Ile Gln Pro Ile Phe Ala Val Thr Ser Arg Met Val Lys Thr Tyr
1   5   10   15

Glu

<210> 59
<211> 19

<212> PRT
<213> Homo sapiens

<400> 59

Glu Asn Asn Ile Gln Pro Ile Phe Ala Val Thr Ser Arg Met Val Lys
1   5   10   15

Thr Tyr Glu

<210> 60
<211> 17
<212> PRT
<213> Homo sapiens

<400> 60

Asn Lys Val Phe Gly Glu Asp Ser Val Gly Val Ile Phe Lys Asn Gly
1   5   10   15

Asp

<210> 61
<211> 16
<212> PRT
<213> Homo sapiens

<400> 61

Tyr Pro Glu Gln Leu Lys Met Thr Val Val Lys Leu Ile Ser His Arg
1   5   10   15

<210> 62
<211> 16
<212> PRT
<213> Homo sapiens

<400> 62

Lys Asn Thr Leu Tyr Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr
1   5   10   15

<210> 63
<211> 16
<212> PRT
<213> Homo sapiens

<400> 63

Asn Gly Gly His Tyr Thr Tyr Ser Glu Asn Arg Val Glu Lys Asp Gly
1   5   10   15

<210>   64
<211>   15
<212>   PRT
<213>   Homo sapiens

<400>   64

Gly Pro Asn Asn Tyr Tyr Ser Phe Ala Ser Gln Gln Gln Lys Pro
1   5   10   15

<210>   65
<211>   16
<212>   PRT
<213>   Homo sapiens

<400>   65

Gly Pro Asn Asn Tyr Tyr Ser Phe Ala Ser Gln Gln Gln Lys Pro Glu
1   5   10   15

<210>   66
<211>   17
<212>   PRT
<213>   Homo sapiens

<400>   66

Gly Pro Asn Asn Tyr Tyr Ser Phe Ala Ser Gln Gln Gln Lys Pro Glu
1   5   10   15

Asp

<210>   67
<211>   18
<212>   PRT
<213>   Homo sapiens

<400>   67

Gly Pro Asn Asn Tyr Tyr Ser Phe Ala Ser Gln Gln Gln Lys Pro Glu
1   5   10   15

Asp Thr

<210>   68

<211> 16
<212> PRT
<213> Homo sapiens

<400> 68

Glu Lys Leu Trp Phe Val Pro Ala Lys Val Glu Asp Ser Gly His Tyr
1   5   10   15

<210> 69
<211> 14
<212> PRT
<213> Homo sapiens

<400> 69

Ser Leu Arg Glu Leu His Leu Asp His Asn Gln Ile Ser Arg
1   5   10

<210> 70
<211> 13
<212> PRT
<213> Homo sapiens

<400> 70

Leu Arg Glu Leu His Leu Asp His Asn Gln Ile Ser Arg
1   5   10

<210> 71
<211> 15
<212> PRT
<213> Homo sapiens

<400> 71

Glu Thr Met Lys Met Arg Tyr Glu His Ile Asp His Thr Phe Glu
1   5   10   15

<210> 72
<211> 17
<212> PRT
<213> Homo sapiens

<400> 72

Glu Thr Met Lys Met Arg Tyr Glu His Ile Asp His Thr Phe Glu Ile
1   5   10   15

Gln

<210> 73
<211> 16
<212> PRT
<213> Homo sapiens

<400> 73

His Met Phe Leu Gln Asp Glu Ile Ile Asp Lys Ser Tyr Thr Pro Ser
1   5   10   15

<210> 74
<211> 17
<212> PRT
<213> Homo sapiens

<400> 74

Val Asp Arg Tyr Ile Ser Lys Tyr Glu Leu Asp Lys Ala Phe Ser Asp
1   5   10   15

Arg

<210> 75
<211> 14
<212> PRT
<213> Homo sapiens

<400> 75

Arg Tyr Ile Ser Lys Tyr Glu Leu Asp Lys Ala Phe Ser Asp
1   5   10

<210> 76
<211> 19
<212> PRT
<213> Homo sapiens

<400> 76

Leu Pro Val Gly Arg Thr Val Met Val Asn Ile Glu Asn Pro Glu Gly
1   5   10   15

Ile Pro Val

<210> 77
<211> 20
<212> PRT
<213> Homo sapiens

<400> 77

Leu Pro Val Gly Arg Thr Val Met Val Asn Ile Glu Asn Pro Glu Gly
1   5   10   15

Ile Pro Val Lys
            20

<210> 78
<211> 18
<212> PRT
<213> Homo sapiens

<400> 78

Gly Thr Pro His Gly Ile Ile Leu Asp Ser Val Asp Ala Ala Phe Ile
1   5   10   15

Cys Pro

<210> 79
<211> 18
<212> PRT
<213> Homo sapiens

<400> 79

Met Ala Thr Pro Leu Leu Met Gln Ala Leu Pro Met Gly Ala Leu Pro
1   5   10   15

Gln Gly

<210> 80
<211> 17
<212> PRT
<213> Homo sapiens

<400> 80

Met Ala Thr Pro Leu Leu Met Gln Ala Leu Pro Met Gly Ala Leu Pro
1   5   10   15

Gln

<210> 81

<211> 16
<212> PRT
<213> Homo sapiens

<400> 81

Met Ala Thr Pro Leu Leu Met Gln Ala Leu Pro Met Gly Ala Leu Pro
1   5   10   15

<210> 82
<211> 21
<212> PRT
<213> Homo sapiens

<400> 82

Met Ala Thr Pro Leu Leu Met Gln Ala Leu Pro Met Gly Ala Leu Pro
1   5   10   15

Gln Gly Pro Met Gln
            20

<210> 83
<211> 15
<212> PRT
<213> Homo sapiens

<400> 83

Ala Thr Pro Leu Leu Met Gln Ala Leu Pro Met Gly Ala Leu Pro
1   5   10   15

<210> 84
<211> 23
<212> PRT
<213> Homo sapiens

<400> 84

His Pro Pro Val Gln Trp Ala Phe Gln Glu Thr Ser Val Glu Ser Ala
1   5   10   15

Val Asp Thr Pro Phe Pro Ala
            20

<210> 85
<211> 24
<212> PRT
<213> Homo sapiens

<400> 85

His Pro Pro Val Gln Trp Ala Phe Gln Glu Thr Ser Val Glu Ser Ala
1   5   10   15

Val Asp Thr Pro Phe Pro Ala Gly
                20

<210> 86
<211> 22
<212> PRT
<213> Homo sapiens

<400> 86

His Pro Pro Val Gln Trp Ala Phe Gln Glu Thr Ser Val Glu Ser Ala
1   5   10   15

Val Asp Thr Pro Phe Pro
                20

<210> 87
<211> 17
<212> PRT
<213> Homo sapiens

<400> 87

Lys Ile Tyr Leu Tyr Thr Leu Asn Asp Asn Ala Arg Ser Ser Pro Val
1   5   10   15

Val

<210> 88
<211> 16
<212> PRT
<213> Homo sapiens

<400> 88

Lys Ile Tyr Leu Tyr Thr Leu Asn Asp Asn Ala Arg Ser Ser Pro Val
1   5   10   15

<210> 89
<211> 17
<212> PRT
<213> Homo sapiens

<400> 89

Ile Tyr Leu Tyr Thr Leu Asn Asp Asn Ala Arg Ser Ser Pro Val Val
1   5   10   15

Ile

<210> 90
<211> 15
<212> PRT
<213> Homo sapiens

<400> 90

Ile Tyr Leu Tyr Thr Leu Asn Asp Asn Ala Arg Ser Ser Pro Val
1   5   10   15

<210> 91
<211> 16
<212> PRT
<213> Homo sapiens

<400> 91

Ile Tyr Leu Tyr Thr Leu Asn Asp Asn Ala Arg Ser Ser Pro Val Val
1   5   10   15

<210> 92
<211> 15
<212> PRT
<213> Homo sapiens

<400> 92

Tyr Asn Ser Tyr Ser Val Ser Asn Ser Glu Lys Asp Ile Met Ala
1   5   10   15

<210> 93
<211> 15
<212> PRT
<213> Homo sapiens

<400> 93

Ala Gly Ser Leu Thr Leu Ser Lys Thr Glu Leu Gly Lys Lys Ala
1   5   10   15

<210> 94
<211> 16
<212> PRT
<213> Homo sapiens

<400> 94

Ala Gly Ser Leu Thr Leu Ser Lys Thr Glu Leu Gly Lys Lys Ala Asp
1   5   10   15

<210> 95
<211> 14
<212> PRT
<213> Homo sapiens

<400> 95

Val Pro Lys Asp Tyr Thr Gly Glu Asp Val Thr Pro Gln Asn
1   5   10

<210> 96
<211> 13
<212> PRT
<213> Homo sapiens

<400> 96

Asp Ser Lys Phe His Gln Ala Ile Asn Asp Ala His Gln
1   5   10

<210> 97
<211> 15
<212> PRT
<213> Homo sapiens

<400> 97

Met Pro Leu Glu Phe Lys Thr Leu Asn Val Leu His Asn Arg Gly
1   5   10   15

<210> 98
<211> 15
<212> PRT
<213> Homo sapiens

<400> 98

Ala Thr Arg Ser Ile Gln Val Asp Gly Lys Thr Ile Lys Ala Gln
1   5   10   15

<210> 99
<211> 18
<212> PRT
<213> Homo sapiens

<400> 99

Ala Thr Arg Ser Ile Gln Val Asp Gly Lys Thr Ile Lys Ala Gln Ile
1   5   10   15

Trp Asp

<210>   100
<211>   14
<212>   PRT
<213>   Homo sapiens

<400>   100

Thr Arg Ser Ile Gln Val Asp Gly Lys Thr Ile Lys Ala Gln
1   5   10

<210>   101
<211>   17
<212>   PRT
<213>   Homo sapiens

<400>   101

Ala Thr Arg Ser Ile Gln Val Asp Gly Lys Thr Ile Lys Ala Gln Ile
1   5   10   15

Trp

<210>   102
<211>   13
<212>   PRT
<213>   Homo sapiens

<400>   102

Arg Ser Ile Gln Val Asp Gly Lys Thr Ile Lys Ala Gln
1   5   10

<210>   103
<211>   9
<212>   PRT
<213>   Homo sapiens

<400>   103

Ile Gln Pro Ile Phe Ala Val Thr Ser
1   5

<210>   104

<211> 9
<212> PRT
<213> Homo sapiens

<400> 104

Val Phe Gly Glu Asp Ser Val Gly Val
1   5

<210> 105
<211> 9
<212> PRT
<213> Homo sapiens

<400> 105

Leu Lys Met Thr Val Val Lys Leu Ile
1   5

<210> 106
<211> 9
<212> PRT
<213> Homo sapiens

<400> 106

Tyr Leu Gln Met Asn Ser Leu Arg Ala
1   5

<210> 107
<211> 9
<212> PRT
<213> Homo sapiens

<400> 107

Tyr Thr Tyr Ser Glu Asn Arg Val Glu
1   5

<210> 108
<211> 9
<212> PRT
<213> Homo sapiens

<400> 108

Tyr Tyr Ser Phe Ala Ser Gln Gln Gln
1   5

<210> 109
<211> 9
<212> PRT

<213> Homo sapiens

<400> 109

Phe Val Pro Ala Lys Val Glu Asp Ser
1   5

<210> 110
<211> 9
<212> PRT
<213> Homo sapiens

<400> 110

Leu His Leu Asp His Asn Gln Ile Ser
1   5

<210> 111
<211> 9
<212> PRT
<213> Homo sapiens

<400> 111

Met Arg Tyr Glu His Ile Asp His Thr
1   5

<210> 112
<211> 9
<212> PRT
<213> Homo sapiens

<400> 112

Phe Leu Gln Asp Glu Ile Ile Asp Lys
1   5

<210> 113
<211> 9
<212> PRT
<213> Homo sapiens

<400> 113

Met Val Asn Ile Glu Asn Pro Glu Gly
1   5

<210> 114
<211> 9
<212> PRT
<213> Homo sapiens

<400> 114

Leu Met Gln Ala Leu Pro Met Gly Ala
1   5

<210> 115
<211> 9
<212> PRT
<213> Homo sapiens

<400> 115

Trp Ala Phe Gln Glu Thr Ser Val Glu
1   5

<210> 116
<211> 9
<212> PRT
<213> Homo sapiens

<400> 116

Tyr Thr Leu Asn Asp Asn Ala Arg Ser
1   5

<210> 117
<211> 9
<212> PRT
<213> Homo sapiens

<400> 117

Tyr Ser Val Ser Asn Ser Glu Lys Asp
1   5

<210> 118
<211> 9
<212> PRT
<213> Homo sapiens

<400> 118

Leu Thr Leu Ser Lys Thr Glu Leu Gly
1   5

<210> 119
<211> 9
<212> PRT
<213> Homo sapiens

<400> 119

Tyr Thr Gly Glu Asp Val Thr Pro Gln
1   5

<210>   120
<211>   9
<212>   PRT
<213>   Homo sapiens

<400>   120

Phe His Gln Ala Ile Asn Asp Ala His
1   5

<210>   121
<211>   9
<212>   PRT
<213>   Homo sapiens

<400>   121

Phe Lys Thr Leu Asn Val Leu His Asn
1   5

<210>   122
<211>   9
<212>   PRT
<213>   Homo sapiens

<400>   122

Ile Gln Val Asp Gly Lys Thr Ile Lys
1   5

<210>   123
<211>   769
<212>   PRT
<213>   Homo sapiens

<300>
<308>   Swissprot/P05107
<309>   1987-08-13
<313>   (1)..(769)

<400>   123

Met Leu Gly Leu Arg Pro Pro Leu Leu Ala Leu Val Gly Leu Leu Ser
1   5   10   15

Leu Gly Cys Val Leu Ser Gln Glu Cys Thr Lys Phe Lys Val Ser Ser
            20   25   30

```
Cys Arg Glu Cys Ile Glu Ser Gly Pro Gly Cys Thr Trp Cys Gln Lys
    35                      40                  45

Leu Asn Phe Thr Gly Pro Gly Asp Pro Asp Ser Ile Arg Cys Asp Thr
    50                      55                  60

Arg Pro Gln Leu Leu Met Arg Gly Cys Ala Ala Asp Asp Ile Met Asp
65                      70              75                      80

Pro Thr Ser Leu Ala Glu Thr Gln Glu Asp His Asn Gly Gly Gln Lys
                85                  90                      95

Gln Leu Ser Pro Gln Lys Val Thr Leu Tyr Leu Arg Pro Gly Gln Ala
                100             105                 110

Ala Ala Phe Asn Val Thr Phe Arg Arg Ala Lys Gly Tyr Pro Ile Asp
            115                 120                 125

Leu Tyr Tyr Leu Met Asp Leu Ser Tyr Ser Met Leu Asp Asp Leu Arg
    130                 135                 140

Asn Val Lys Lys Leu Gly Gly Asp Leu Leu Arg Ala Leu Asn Glu Ile
145                 150                 155                 160

Thr Glu Ser Gly Arg Ile Gly Phe Gly Ser Phe Val Asp Lys Thr Val
                165                 170                 175

Leu Pro Phe Val Asn Thr His Pro Asp Lys Leu Arg Asn Pro Cys Pro
            180                 185                 190

Asn Lys Glu Lys Glu Cys Gln Pro Pro Phe Ala Phe Arg His Val Leu
            195                 200                 205

Lys Leu Thr Asn Asn Ser Asn Gln Phe Gln Thr Glu Val Gly Lys Gln
    210                 215                 220

Leu Ile Ser Gly Asn Leu Asp Ala Pro Glu Gly Gly Leu Asp Ala Met
225                 230                 235                 240

Met Gln Val Ala Ala Cys Pro Glu Glu Ile Gly Trp Arg Asn Val Thr
                245                 250                 255

Arg Leu Leu Val Phe Ala Thr Asp Asp Gly Phe His Phe Ala Gly Asp
```

```
                    260                          265                          270


Gly Lys Leu Gly Ala Ile Leu Thr Pro Asn Asp Gly Arg Cys His Leu
        275                  280                  285

Glu Asp Asn Leu Tyr Lys Arg Ser Asn Glu Phe Asp Tyr Pro Ser Val
        290                  295                  300

Gly Gln Leu Ala His Lys Leu Ala Glu Asn Asn Ile Gln Pro Ile Phe
305                  310                  315                  320

Ala Val Thr Ser Arg Met Val Lys Thr Tyr Glu Lys Leu Thr Glu Ile
                325                  330                  335

Ile Pro Lys Ser Ala Val Gly Glu Leu Ser Glu Asp Ser Ser Asn Val
                340                  345                  350

Val His Leu Ile Lys Asn Ala Tyr Asn Lys Leu Ser Ser Arg Val Phe
        355                  360                  365

Leu Asp His Asn Ala Leu Pro Asp Thr Leu Lys Val Thr Tyr Asp Ser
        370                  375                  380

Phe Cys Ser Asn Gly Val Thr His Arg Asn Gln Pro Arg Gly Asp Cys
385                  390                  395                  400

Asp Gly Val Gln Ile Asn Val Pro Ile Thr Phe Gln Val Lys Val Thr
                405                  410                  415

Ala Thr Glu Cys Ile Gln Glu Gln Ser Phe Val Ile Arg Ala Leu Gly
                420                  425                  430

Phe Thr Asp Ile Val Thr Val Gln Val Leu Pro Gln Cys Glu Cys Arg
                435                  440                  445

Cys Arg Asp Gln Ser Arg Asp Arg Ser Leu Cys His Gly Lys Gly Phe
        450                  455                  460

Leu Glu Cys Gly Ile Cys Arg Cys Asp Thr Gly Tyr Ile Gly Lys Asn
465                  470                  475                  480

Cys Glu Cys Gln Thr Gln Gly Arg Ser Ser Gln Glu Leu Glu Gly Ser
                485                  490                  495
```

Cys Arg Lys Asp Asn Asn Ser Ile Ile Cys Ser Gly Leu Gly Asp Cys
        500   505   510

Val Cys Gly Gln Cys Leu Cys His Thr Ser Asp Val Pro Gly Lys Leu
        515   520   525

Ile Tyr Gly Gln Tyr Cys Glu Cys Asp Thr Ile Asn Cys Glu Arg Tyr
        530   535   540

Asn Gly Gln Val Cys Gly Gly Pro Gly Arg Gly Leu Cys Phe Cys Gly
545   550   555   560

Lys Cys Arg Cys His Pro Gly Phe Glu Gly Ser Ala Cys Gln Cys Glu
                565   570   575

Arg Thr Thr Glu Gly Cys Leu Asn Pro Arg Arg Val Glu Cys Ser Gly
            580   585   590

Arg Gly Arg Cys Arg Cys Asn Val Cys Glu Cys His Ser Gly Tyr Gln
        595   600   605

Leu Pro Leu Cys Gln Glu Cys Pro Gly Cys Pro Ser Pro Cys Gly Lys
    610   615   620

Tyr Ile Ser Cys Ala Glu Cys Leu Lys Phe Glu Lys Gly Pro Phe Gly
625   630   635   640

Lys Asn Cys Ser Ala Ala Cys Pro Gly Leu Gln Leu Ser Asn Asn Pro
                645   650   655

Val Lys Gly Arg Thr Cys Lys Glu Arg Asp Ser Glu Gly Cys Trp Val
            660   665   670

Ala Tyr Thr Leu Glu Gln Gln Asp Gly Met Asp Arg Tyr Leu Ile Tyr
        675   680   685

Val Asp Glu Ser Arg Glu Cys Val Ala Gly Pro Asn Ile Ala Ala Ile
        690   695   700

Val Gly Gly Thr Val Ala Gly Ile Val Leu Ile Gly Ile Leu Leu Leu
705   710   715   720

Val Ile Trp Lys Ala Leu Ile His Leu Ser Asp Leu Arg Glu Tyr Arg
                725   730   735

Arg Phe Glu Lys Glu Lys Leu Lys Ser Gln Trp Asn Asn Asp Asn Pro
                740   745   750

Leu Phe Lys Ser Ala Thr Thr Thr Val Met Asn Pro Lys Phe Ala Glu
                755   760   765

Ser

<210>   124
<211>   1070
<212>   PRT
<213>   Homo sapiens

<300>
<308>   Swissprot/P42338
<309>   1995-11-01
<313>   (1)..(1070)

<400>   124

Met Cys Phe Ser Phe Ile Met Pro Pro Ala Met Ala Asp Ile Leu Asp
1   5   10   15

Ile Trp Ala Val Asp Ser Gln Ile Ala Ser Asp Gly Ser Ile Pro Val
                20   25   30

Asp Phe Leu Leu Pro Thr Gly Ile Tyr Ile Gln Leu Glu Val Pro Arg
                35   40   45

Glu Ala Thr Ile Ser Tyr Ile Lys Gln Met Leu Trp Lys Gln Val His
        50   55   60

Asn Tyr Pro Met Phe Asn Leu Leu Met Asp Ile Asp Ser Tyr Met Phe
65   70   75   80

Ala Cys Val Asn Gln Thr Ala Val Tyr Glu Glu Leu Glu Asp Glu Thr
                85   90   95

Arg Arg Leu Cys Asp Val Arg Pro Phe Leu Pro Val Leu Lys Leu Val
                100   105   110

Thr Arg Ser Cys Asp Pro Gly Glu Lys Leu Asp Ser Lys Ile Gly Val
    115   120   125

Leu Ile Gly Lys Gly Leu His Glu Phe Asp Ser Leu Lys Asp Pro Glu
    130   135   140

Val Asn Glu Phe Arg Arg Lys Met Arg Lys Phe Ser Glu Glu Lys Ile
145   150   155   160

Leu Ser Leu Val Gly Leu Ser Trp Met Asp Trp Leu Lys Gln Thr Tyr
            165   170   175

Pro Pro Glu His Glu Pro Ser Ile Pro Glu Asn Leu Glu Asp Lys Leu
            180   185   190

Tyr Gly Gly Lys Leu Ile Val Ala Val His Phe Glu Asn Cys Gln Asp
    195   200   205

Val Phe Ser Phe Gln Val Ser Pro Asn Met Asn Pro Ile Lys Val Asn
    210   215   220

Glu Leu Ala Ile Gln Lys Arg Leu Thr Ile His Gly Lys Glu Asp Glu
225   230   235   240

Val Ser Pro Tyr Asp Tyr Val Leu Gln Val Ser Gly Arg Val Glu Tyr
            245   250   255

Val Phe Gly Asp His Pro Leu Ile Gln Phe Gln Tyr Ile Arg Asn Cys
            260   265   270

Val Met Asn Arg Ala Leu Pro His Phe Ile Leu Val Glu Cys Cys Lys
    275   280   285

Ile Lys Lys Met Tyr Glu Gln Glu Met Ile Ala Ile Glu Ala Ala Ile
    290   295   300

Asn Arg Asn Ser Ser Asn Leu Pro Leu Pro Leu Pro Pro Lys Lys Thr
305   310   315   320

Arg Ile Ile Ser His Val Trp Glu Asn Asn Asn Pro Phe Gln Ile Val
            325   330   335

Leu Val Lys Gly Asn Lys Leu Asn Thr Glu Glu Thr Val Lys Val His

```
              340                        345                        350

Val Arg Ala Gly Leu Phe His Gly Thr Glu Leu Leu Cys Lys Thr Ile
        355                    360                    365

Val Ser Ser Glu Val Ser Gly Lys Asn Asp His Ile Trp Asn Glu Pro
370                    375                    380

Leu Glu Phe Asp Ile Asn Ile Cys Asp Leu Pro Arg Met Ala Arg Leu
385                    390                    395                    400

Cys Phe Ala Val Tyr Ala Val Leu Asp Lys Val Lys Thr Lys Lys Ser
            405                    410                    415

Thr Lys Thr Ile Asn Pro Ser Lys Tyr Gln Thr Ile Arg Lys Ala Gly
            420                    425                    430

Lys Val His Tyr Pro Val Ala Trp Val Asn Thr Met Val Phe Asp Phe
        435                    440                    445

Lys Gly Gln Leu Arg Thr Gly Asp Ile Ile Leu His Ser Trp Ser Ser
    450                    455                    460

Phe Pro Asp Glu Leu Glu Glu Met Leu Asn Pro Met Gly Thr Val Gln
465                    470                    475                    480

Thr Asn Pro Tyr Thr Glu Asn Ala Thr Ala Leu His Val Lys Phe Pro
            485                    490                    495

Glu Asn Lys Lys Gln Pro Tyr Tyr Tyr Pro Pro Phe Asp Lys Ile Ile
        500                    505                    510

Glu Lys Ala Ala Glu Ile Ala Ser Ser Asp Ser Ala Asn Val Ser Ser
        515                    520                    525

Arg Gly Gly Lys Lys Phe Leu Pro Val Leu Lys Glu Ile Leu Asp Arg
    530                    535                    540

Asp Pro Leu Ser Gln Leu Cys Glu Asn Glu Met Asp Leu Ile Trp Thr
545                    550                    555                    560

Leu Arg Gln Asp Cys Arg Glu Ile Phe Pro Gln Ser Leu Pro Lys Leu
            565                    570                    575
```

Leu Leu Ser Ile Lys Trp Asn Lys Leu Glu Asp Val Ala Gln Leu Gln
            580   585   590

Ala Leu Leu Gln Ile Trp Pro Lys Leu Pro Pro Arg Glu Ala Leu Glu
            595   600   605

Leu Leu Asp Phe Asn Tyr Pro Asp Gln Tyr Val Arg Glu Tyr Ala Val
            610   615   620

Gly Cys Leu Arg Gln Met Ser Asp Glu Glu Leu Ser Gln Tyr Leu Leu
625   630   635   640

Gln Leu Val Gln Val Leu Lys Tyr Glu Pro Phe Leu Asp Cys Ala Leu
                645   650   655

Ser Arg Phe Leu Leu Glu Arg Ala Leu Gly Asn Arg Arg Ile Gly Gln
                660   665   670

Phe Leu Phe Trp His Leu Arg Ser Glu Val His Ile Pro Ala Val Ser
                675   680   685

Val Gln Phe Gly Val Ile Leu Glu Ala Tyr Cys Arg Gly Ser Val Gly
            690   695   700

His Met Lys Val Leu Ser Lys Gln Val Glu Ala Leu Asn Lys Leu Lys
705   710   715   720

Thr Leu Asn Ser Leu Ile Lys Leu Asn Ala Val Lys Leu Asn Arg Ala
                725   730   735

Lys Gly Lys Glu Ala Met His Thr Cys Leu Lys Gln Ser Ala Tyr Arg
                740   745   750

Glu Ala Leu Ser Asp Leu Gln Ser Pro Leu Asn Pro Cys Val Ile Leu
                755   760   765

Ser Glu Leu Tyr Val Glu Lys Cys Lys Tyr Met Asp Ser Lys Met Lys
                770   775   780

Pro Leu Trp Leu Val Tyr Asn Asn Lys Val Phe Gly Glu Asp Ser Val
785   790   795   800

Gly Val Ile Phe Lys Asn Gly Asp Asp Leu Arg Gln Asp Met Leu Thr
                  805   810   815

Leu Gln Met Leu Arg Leu Met Asp Leu Leu Trp Lys Glu Ala Gly Leu
            820   825   830

Asp Leu Arg Met Leu Pro Tyr Gly Cys Leu Ala Thr Gly Asp Arg Ser
            835   840   845

Gly Leu Ile Glu Val Val Ser Thr Ser Glu Thr Ile Ala Asp Ile Gln
    850   855   860

Leu Asn Ser Ser Asn Val Ala Ala Ala Ala Phe Asn Lys Asp Ala
865   870   875   880

Leu Leu Asn Trp Leu Lys Glu Tyr Asn Ser Gly Asp Asp Leu Asp Arg
            885   890   895

Ala Ile Glu Glu Phe Thr Leu Ser Cys Ala Gly Tyr Cys Val Ala Ser
        900   905   910

Tyr Val Leu Gly Ile Gly Asp Arg His Ser Asp Asn Ile Met Val Lys
        915   920   925

Lys Thr Gly Gln Leu Phe His Ile Asp Phe Gly His Ile Leu Gly Asn
    930   935   940

Phe Lys Ser Lys Phe Gly Ile Lys Arg Glu Arg Val Pro Phe Ile Leu
945   950   955   960

Thr Tyr Asp Phe Ile His Val Ile Gln Gln Gly Lys Thr Gly Asn Thr
            965   970   975

Glu Lys Phe Gly Arg Phe Arg Gln Cys Cys Glu Asp Ala Tyr Leu Ile
            980   985   990

Leu Arg Arg His Gly Asn Leu Phe Ile Thr Leu Phe Ala Leu Met Leu
        995   1000   1005

Thr Ala Gly Leu Pro Glu Leu Thr Ser Val Lys Asp Ile Gln Tyr
    1010   1015   1020

Leu Lys   Asp Ser Leu Ala Leu   Gly Lys Ser Glu Glu   Glu Ala Leu
    1025   1030   1035

Lys Gln   Phe Lys Gln Lys Phe   Asp Glu Ala Leu Arg   Glu Ser Trp
    1040   1045   1050

Thr Thr   Lys Val Asn Trp Met   Ala His Thr Val Arg   Lys Asp Tyr
    1055   1060   1065

Arg Ser
    1070

<210>   125
<211>   431
<212>   PRT
<213>   Homo sapiens

<300>
<308>   Swissprot/P00749
<309>   1986-07-21
<313>   (1)..(431)

<400>   125

Met Arg Ala Leu Leu Ala Arg Leu Leu Leu Cys Val Leu Val Val Ser
1   5   10   15

Asp Ser Lys Gly Ser Asn Glu Leu His Gln Val Pro Ser Asn Cys Asp
                20   25   30

Cys Leu Asn Gly Gly Thr Cys Val Ser Asn Lys Tyr Phe Ser Asn Ile
            35   40   45

His Trp Cys Asn Cys Pro Lys Lys Phe Gly Gly Gln His Cys Glu Ile
    50   55   60

Asp Lys Ser Lys Thr Cys Tyr Glu Gly Asn Gly His Phe Tyr Arg Gly
65   70   75   80

Lys Ala Ser Thr Asp Thr Met Gly Arg Pro Cys Leu Pro Trp Asn Ser
                85   90   95

Ala Thr Val Leu Gln Gln Thr Tyr His Ala His Arg Ser Asp Ala Leu
                100   105   110

Gln Leu Gly Leu Gly Lys His Asn Tyr Cys Arg Asn Pro Asp Asn Arg

Arg Arg Pro Trp Cys Tyr Val Gln Val Gly Leu Lys Pro Leu Val Gln
    130   135   140

Glu Cys Met Val His Asp Cys Ala Asp Gly Lys Lys Pro Ser Ser Pro
145   150   155   160

Pro Glu Glu Leu Lys Phe Gln Cys Gly Gln Lys Thr Leu Arg Pro Arg
                165   170   175

Phe Lys Ile Ile Gly Gly Glu Phe Thr Thr Ile Glu Asn Gln Pro Trp
                180   185   190

Phe Ala Ala Ile Tyr Arg Arg His Arg Gly Gly Ser Val Thr Tyr Val
                195   200   205

Cys Gly Gly Ser Leu Met Ser Pro Cys Trp Val Ile Ser Ala Thr His
    210   215   220

Cys Phe Ile Asp Tyr Pro Lys Lys Glu Asp Tyr Ile Val Tyr Leu Gly
225   230   235   240

Arg Ser Arg Leu Asn Ser Asn Thr Gln Gly Glu Met Lys Phe Glu Val
                245   250   255

Glu Asn Leu Ile Leu His Lys Asp Tyr Ser Ala Asp Thr Leu Ala His
                260   265   270

His Asn Asp Ile Ala Leu Leu Lys Ile Arg Ser Lys Glu Gly Arg Cys
                275   280   285

Ala Gln Pro Ser Arg Thr Ile Gln Thr Ile Cys Leu Pro Ser Met Tyr
    290   295   300

Asn Asp Pro Gln Phe Gly Thr Ser Cys Glu Ile Thr Gly Phe Gly Lys
305   310   315   320

Glu Asn Ser Thr Asp Tyr Leu Tyr Pro Glu Gln Leu Lys Met Thr Val
                325   330   335

Val Lys Leu Ile Ser His Arg Glu Cys Gln Gln Pro His Tyr Tyr Gly
                340   345   350

Ser Glu Val Thr Thr Lys Met Leu Cys Ala Ala Asp Pro Gln Trp Lys
      355   360   365

Thr Asp Ser Cys Gln Gly Asp Ser Gly Gly Pro Leu Val Cys Ser Leu
      370   375   380

Gln Gly Arg Met Thr Leu Thr Gly Ile Val Ser Trp Gly Arg Gly Cys
385   390   395   400

Ala Leu Lys Asp Lys Pro Gly Val Tyr Thr Arg Val Ser His Phe Leu
                  405   410   415

Pro Trp Ile Arg Ser His Thr Lys Glu Glu Asn Gly Leu Ala Leu
                  420   425   430

<210> 126
<211> 117
<212> PRT
<213> Homo sapiens

<300>
<308> Swissprot/P01764
<309> 1986-07-21
<313> (1)..(117)

<400> 126

Met Glu Phe Gly Leu Ser Trp Leu Phe Leu Val Ala Ile Leu Lys Gly
1   5   10   15

Val Gln Cys Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln
                  20   25   30

Pro Gly Gly Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe
                  35   40   45

Ser Ser Tyr Ala Met Ser Trp Val Arg Gln Ala Pro Gly Lys Gly Leu
      50   55   60

Glu Trp Val Ser Ala Ile Ser Gly Ser Gly Gly Ser Thr Tyr Tyr Gly
65   70   75   80

Asp Ser Val Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn
                  85   90   95

Thr Leu Tyr Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val
            100   105   110

Tyr Tyr Cys Ala Lys
        115

<210> 127
<211> 189
<212> PRT
<213> Homo sapiens

<300>
<308> Swissprot/Q99497
<309> 1997-05-01
<313> (1)..(189)

<400> 127

Met Ala Ser Lys Arg Ala Leu Val Ile Leu Ala Lys Gly Ala Glu Glu
1   5   10   15

Met Glu Thr Val Ile Pro Val Asp Val Met Arg Arg Ala Gly Ile Lys
            20   25   30

Val Thr Val Ala Gly Leu Ala Gly Lys Asp Pro Val Gln Cys Ser Arg
            35   40   45

Asp Val Val Ile Cys Pro Asp Ala Ser Leu Glu Asp Ala Lys Lys Glu
    50   55   60

Gly Pro Tyr Asp Val Val Val Leu Pro Gly Gly Asn Leu Gly Ala Gln
65   70   75   80

Asn Leu Ser Glu Ser Ala Ala Val Lys Glu Ile Leu Lys Glu Gln Glu
                85   90   95

Asn Arg Lys Gly Leu Ile Ala Ala Ile Cys Ala Gly Pro Thr Ala Leu
            100   105   110

Leu Ala His Glu Ile Gly Phe Gly Ser Lys Val Thr Thr His Pro Leu
        115   120   125

Ala Lys Asp Lys Met Met Asn Gly Gly His Tyr Thr Tyr Ser Glu Asn
    130   135   140

Arg Val Glu Lys Asp Gly Leu Ile Leu Thr Ser Arg Gly Pro Gly Thr
145   150   155   160

Ser Phe Glu Phe Ala Leu Ala Ile Val Glu Ala Leu Asn Gly Lys Glu
                165   170   175

Val Ala Ala Gln Val Lys Ala Pro Leu Val Leu Lys Asp
                180   185

<210>   128
<211>   257
<212>   PRT
<213>   Homo sapiens

<300>
<308>   Swissprot/P48556
<309>   1996-02-01
<313>   (1)..(257)

<400>   128

Met Tyr Glu Gln Leu Lys Gly Glu Trp Asn Arg Lys Ser Pro Asn Leu
1   5   10   15

Ser Lys Cys Gly Glu Glu Leu Gly Arg Leu Lys Leu Val Leu Leu Glu
                20   25   30

Leu Asn Phe Leu Pro Thr Thr Gly Thr Lys Leu Thr Lys Gln Gln Leu
                35   40   45

Ile Leu Ala Arg Asp Ile Leu Glu Ile Gly Ala Gln Trp Ser Ile Leu
    50   55   60

Arg Lys Asp Ile Pro Ser Phe Glu Arg Tyr Met Ala Gln Leu Lys Cys
65   70   75   80

Tyr Tyr Phe Asp Tyr Lys Glu Gln Leu Pro Glu Ser Ala Tyr Met His
                85   90   95

Gln Leu Leu Gly Leu Asn Leu Leu Phe Leu Leu Ser Gln Asn Arg Val
                100   105   110

Ala Glu Phe His Thr Glu Leu Glu Arg Leu Pro Ala Lys Asp Ile Gln
                115   120   125

Thr Asn Val Tyr Ile Lys His Pro Val Ser Leu Glu Gln Tyr Leu Met

Glu Gly Ser Tyr Asn Lys Val Phe Leu Ala Lys Gly Asn Ile Pro Ala
145   150   155   160

Glu Ser Tyr Thr Phe Phe Ile Asp Ile Leu Leu Asp Thr Ile Arg Asp
                    165   170   175

Glu Ile Ala Gly Cys Ile Glu Lys Ala Tyr Glu Lys Ile Leu Phe Thr
                180   185   190

Glu Ala Thr Arg Ile Leu Phe Phe Asn Thr Pro Lys Lys Met Thr Asp
            195   200   205

Tyr Ala Lys Lys Arg Gly Trp Val Leu Gly Pro Asn Asn Tyr Tyr Ser
        210   215   220

Phe Ala Ser Gln Gln Gln Lys Pro Glu Asp Thr Thr Ile Pro Ser Thr
225   230   235   240

Glu Leu Ala Lys Gln Val Ile Glu Tyr Ala Arg Gln Leu Glu Met Ile
                245   250   255

Val

<210>   129
<211>   569
<212>   PRT
<213>   Homo sapiens

<300>
<308>   Swissprot/P14778
<309>   1990-04-01
<313>   (1)..(569)

<400>   129

Met Lys Val Leu Leu Arg Leu Ile Cys Phe Ile Ala Leu Leu Ile Ser
1   5   10   15

Ser Leu Glu Ala Asp Lys Cys Lys Glu Arg Glu Glu Lys Ile Ile Leu
            20   25   30

Val Ser Ser Ala Asn Glu Ile Asp Val Arg Pro Cys Pro Leu Asn Pro
        35   40   45

```
Asn Glu His Lys Gly Thr Ile Thr Trp Tyr Lys Asp Asp Ser Lys Thr
    50              55              60

Pro Val Ser Thr Glu Gln Ala Ser Arg Ile His Gln His Lys Glu Lys
65              70              75              80

Leu Trp Phe Val Pro Ala Lys Val Glu Asp Ser Gly His Tyr Tyr Cys
                85              90              95

Val Val Arg Asn Ser Ser Tyr Cys Leu Arg Ile Lys Ile Ser Ala Lys
            100             105             110

Phe Val Glu Asn Glu Pro Asn Leu Cys Tyr Asn Ala Gln Ala Ile Phe
            115             120             125

Lys Gln Lys Leu Pro Val Ala Gly Asp Gly Gly Leu Val Cys Pro Tyr
    130             135             140

Met Glu Phe Phe Lys Asn Glu Asn Asn Glu Leu Pro Lys Leu Gln Trp
145             150             155             160

Tyr Lys Asp Cys Lys Pro Leu Leu Leu Asp Asn Ile His Phe Ser Gly
            165             170             175

Val Lys Asp Arg Leu Ile Val Met Asn Val Ala Glu Lys His Arg Gly
            180             185             190

Asn Tyr Thr Cys His Ala Ser Tyr Thr Tyr Leu Gly Lys Gln Tyr Pro
    195             200             205

Ile Thr Arg Val Ile Glu Phe Ile Thr Leu Glu Glu Asn Lys Pro Thr
    210             215             220

Arg Pro Val Ile Val Ser Pro Ala Asn Glu Thr Met Glu Val Asp Leu
225             230             235             240

Gly Ser Gln Ile Gln Leu Ile Cys Asn Val Thr Gly Gln Leu Ser Asp
            245             250             255

Ile Ala Tyr Trp Lys Trp Asn Gly Ser Val Ile Asp Glu Asp Asp Pro
            260             265             270
```

Val Leu Gly Glu Asp Tyr Tyr Ser Val Glu Asn Pro Ala Asn Lys Arg
    275   280   285

Arg Ser Thr Leu Ile Thr Val Leu Asn Ile Ser Glu Ile Glu Ser Arg
    290   295   300

Phe Tyr Lys His Pro Phe Thr Cys Phe Ala Lys Asn Thr His Gly Ile
305   310   315   320

Asp Ala Ala Tyr Ile Gln Leu Ile Tyr Pro Val Thr Asn Phe Gln Lys
                325   330   335

His Met Ile Gly Ile Cys Val Thr Leu Thr Val Ile Ile Val Cys Ser
                340   345   350

Val Phe Ile Tyr Lys Ile Phe Lys Ile Asp Ile Val Leu Trp Tyr Arg
                355   360   365

Asp Ser Cys Tyr Asp Phe Leu Pro Ile Lys Ala Ser Asp Gly Lys Thr
    370   375   380

Tyr Asp Ala Tyr Ile Leu Tyr Pro Lys Thr Val Gly Glu Gly Ser Thr
385   390   395   400

Ser Asp Cys Asp Ile Phe Val Phe Lys Val Leu Pro Glu Val Leu Glu
                405   410   415

Lys Gln Cys Gly Tyr Lys Leu Phe Ile Tyr Gly Arg Asp Asp Tyr Val
                420   425   430

Gly Glu Asp Ile Val Glu Val Ile Asn Glu Asn Val Lys Lys Ser Arg
    435   440   445

Arg Leu Ile Ile Ile Leu Val Arg Glu Thr Ser Gly Phe Ser Trp Leu
    450   455   460

Gly Gly Ser Ser Glu Glu Gln Ile Ala Met Tyr Asn Ala Leu Val Gln
465   470   475   480

Asp Gly Ile Lys Val Val Leu Leu Glu Leu Glu Lys Ile Gln Asp Tyr
                485   490   495

Glu Lys Met Pro Glu Ser Ile Lys Phe Ile Lys Gln Lys His Gly Ala
        500   505   510

Ile Arg Trp Ser Gly Asp Phe Thr Gln Gly Pro Gln Ser Ala Lys Thr
        515   520   525

Arg Phe Trp Lys Asn Val Arg Tyr His Met Pro Val Gln Arg Arg Ser
    530   535   540

Pro Ser Ser Lys His Gln Leu Leu Ser Pro Ala Thr Lys Glu Lys Leu
545   550   555   560

Gln Arg Glu Ala His Val Pro Leu Gly
                565

<210>   130
<211>   376
<212>   PRT
<213>   Homo sapiens

<300>
<308>   Swissprot/Q06828
<309>   1994-06-01
<313>   (1)..(376)

<400>   130

Met Gln Trp Thr Ser Leu Leu Leu Leu Ala Gly Leu Phe Ser Leu Ser
1   5   10   15

Gln Ala Gln Tyr Glu Asp Asp Pro His Trp Trp Phe His Tyr Leu Arg
            20   25   30

Ser Gln Gln Ser Thr Tyr Tyr Asp Pro Tyr Asp Pro Tyr Pro Tyr Glu
        35   40   45

Thr Tyr Glu Pro Tyr Pro Tyr Gly Val Asp Glu Gly Pro Ala Tyr Thr
    50   55   60

Tyr Gly Ser Pro Ser Pro Pro Asp Pro Arg Asp Cys Pro Gln Glu Cys
65   70   75   80

Asp Cys Pro Pro Asn Phe Pro Thr Ala Met Tyr Cys Asp Asn Arg Asn
                85   90   95

Leu Lys Tyr Leu Pro Phe Val Pro Ser Arg Met Lys Tyr Val Tyr Phe

100   105   110

Gln Asn Asn Gln Ile Thr Ser Ile Gln Glu Gly Val Phe Asp Asn Ala
        115   120   125

Thr Gly Leu Leu Trp Ile Ala Leu His Gly Asn Gln Ile Thr Ser Asp
    130   135   140

Lys Val Gly Arg Lys Val Phe Ser Lys Leu Arg His Leu Glu Arg Leu
145   150   155   160

Tyr Leu Asp His Asn Asn Leu Thr Arg Met Pro Gly Pro Leu Pro Arg
                165   170   175

Ser Leu Arg Glu Leu His Leu Asp His Asn Gln Ile Ser Arg Val Pro
            180   185   190

Asn Asn Ala Leu Glu Gly Leu Glu Asn Leu Thr Ala Leu Tyr Leu Gln
        195   200   205

His Asn Glu Ile Gln Glu Val Gly Ser Ser Met Arg Gly Leu Arg Ser
    210   215   220

Leu Tyr Leu Leu Asp Leu Ser Tyr Asn His Leu Arg Lys Val Pro Asp
225   230   235   240

Gly Leu Pro Ser Ala Leu Glu Gln Leu Tyr Met Glu His Asn Asn Val
                245   250   255

Tyr Thr Val Pro Asp Ser Tyr Phe Arg Gly Ala Pro Lys Leu Leu Tyr
            260   265   270

Val Arg Leu Ser His Asn Ser Leu Thr Asn Asn Gly Leu Ala Ser Asn
            275   280   285

Thr Phe Asn Ser Ser Ser Leu Leu Glu Leu Asp Leu Ser Tyr Asn Gln
    290   295   300

Leu Gln Lys Ile Pro Pro Val Asn Thr Asn Leu Glu Asn Leu Tyr Leu
305   310   315   320

Gln Gly Asn Arg Ile Asn Glu Phe Ser Ile Ser Ser Phe Cys Thr Val
            325   330   335

Val Asp Val Val Asn Phe Ser Gln Leu Gln Val Val Arg Leu Asp Gly
        340   345   350

Asn Glu Met Lys Arg Ser Ala Met Pro Ala Glu Ala Pro Leu Cys Leu
        355   360   365

Arg Leu Ala Ser Leu Ile Glu Ile
    370   375

<210> 131
<211> 897
<212> PRT
<213> Homo sapiens

<300>
<308> Swissprot/P32927
<309> 1993-10-01
<313> (1)..(897)

<400> 131

Met Val Leu Ala Gln Gly Leu Leu Ser Met Ala Leu Leu Ala Leu Cys
1   5   10   15

Trp Glu Arg Ser Leu Ala Gly Ala Glu Glu Thr Ile Pro Leu Gln Thr
            20   25   30

Leu Arg Cys Tyr Asn Asp Tyr Thr Ser His Ile Thr Cys Arg Trp Ala
        35   40   45

Asp Thr Gln Asp Ala Gln Arg Leu Val Asn Val Thr Leu Ile Arg Arg
    50   55   60

Val Asn Glu Asp Leu Leu Glu Pro Val Ser Cys Asp Leu Ser Asp Asp
65   70   75   80

Met Pro Trp Ser Ala Cys Pro His Pro Arg Cys Val Pro Arg Arg Cys
                85   90   95

Val Ile Pro Cys Gln Ser Phe Val Val Thr Asp Val Asp Tyr Phe Ser
            100   105   110

Phe Gln Pro Asp Arg Pro Leu Gly Thr Arg Leu Thr Val Thr Leu Thr
        115   120   125

Gln His Val Gln Pro Pro Glu Pro Arg Asp Leu Gln Ile Ser Thr Asp
    130   135   140

Gln Asp His Phe Leu Leu Thr Trp Ser Val Ala Leu Gly Ser Pro Gln
145   150   155   160

Ser His Trp Leu Ser Pro Gly Asp Leu Glu Phe Glu Val Val Tyr Lys
                165   170   175

Arg Leu Gln Asp Ser Trp Glu Asp Ala Ala Ile Leu Leu Ser Asn Thr
                180   185   190

Ser Gln Ala Thr Leu Gly Pro Glu His Leu Met Pro Ser Ser Thr Tyr
            195   200   205

Val Ala Arg Val Arg Thr Arg Leu Ala Pro Gly Ser Arg Leu Ser Gly
    210   215   220

Arg Pro Ser Lys Trp Ser Pro Glu Val Cys Trp Asp Ser Gln Pro Gly
225   230   235   240

Asp Glu Ala Gln Pro Gln Asn Leu Glu Cys Phe Phe Asp Gly Ala Ala
                245   250   255

Val Leu Ser Cys Ser Trp Glu Val Arg Lys Glu Val Ala Ser Ser Val
                260   265   270

Ser Phe Gly Leu Phe Tyr Lys Pro Ser Pro Asp Ala Gly Glu Glu Glu
            275   280   285

Cys Ser Pro Val Leu Arg Glu Gly Leu Gly Ser Leu His Thr Arg His
    290   295   300

His Cys Gln Ile Pro Val Pro Asp Pro Ala Thr His Gly Gln Tyr Ile
305   310   315   320

Val Ser Val Gln Pro Arg Arg Ala Glu Lys His Ile Lys Ser Ser Val
                325   330   335

Asn Ile Gln Met Ala Pro Pro Ser Leu Asn Val Thr Lys Asp Gly Asp
            340   345   350

Ser Tyr Ser Leu Arg Trp Glu Thr Met Lys Met Arg Tyr Glu His Ile
        355   360   365

Asp His Thr Phe Glu Ile Gln Tyr Arg Lys Asp Thr Ala Thr Trp Lys
        370   375   380

Asp Ser Lys Thr Glu Thr Leu Gln Asn Ala His Ser Met Ala Leu Pro
385   390   395   400

Ala Leu Glu Pro Ser Thr Arg Tyr Trp Ala Arg Val Arg Val Arg Thr
            405   410   415

Ser Arg Thr Gly Tyr Asn Gly Ile Trp Ser Glu Trp Ser Glu Ala Arg
            420   425   430

Ser Trp Asp Thr Glu Ser Val Leu Pro Met Trp Val Leu Ala Leu Ile
            435   440   445

Val Ile Phe Leu Thr Ile Ala Val Leu Leu Ala Leu Arg Phe Cys Gly
        450   455   460

Ile Tyr Gly Tyr Arg Leu Arg Arg Lys Trp Glu Glu Lys Ile Pro Asn
465   470   475   480

Pro Ser Lys Ser His Leu Phe Gln Asn Gly Ser Ala Glu Leu Trp Pro
            485   490   495

Pro Gly Ser Met Ser Ala Phe Thr Ser Gly Ser Pro Pro His Gln Gly
            500   505   510

Pro Trp Gly Ser Arg Phe Pro Glu Leu Glu Gly Val Phe Pro Val Gly
            515   520   525

Phe Gly Asp Ser Glu Val Ser Pro Leu Thr Ile Glu Asp Pro Lys His
        530   535   540

Val Cys Asp Pro Pro Ser Gly Pro Asp Thr Thr Pro Ala Ala Ser Asp
545   550   555   560

Leu Pro Thr Glu Gln Pro Pro Ser Pro Gln Pro Gly Pro Pro Ala Ala
                565   570   575

Ser His Thr Pro Glu Lys Gln Ala Ser Ser Phe Asp Phe Asn Gly Pro

580   585   590

Tyr Leu Gly Pro Pro His Ser Arg Ser Leu Pro Asp Ile Leu Gly Gln
        595   600   605

Pro Glu Pro Pro Gln Glu Gly Gly Ser Gln Lys Ser Pro Pro Pro Gly
    610   615   620

Ser Leu Glu Tyr Leu Cys Leu Pro Ala Gly Gly Gln Val Gln Leu Val
625   630   635   640

Pro Leu Ala Gln Ala Met Gly Pro Gly Gln Ala Val Glu Val Glu Arg
                645   650   655

Arg Pro Ser Gln Gly Ala Ala Gly Ser Pro Ser Leu Glu Ser Gly Gly
            660   665   670

Gly Pro Ala Pro Pro Ala Leu Gly Pro Arg Val Gly Gly Gln Asp Gln
        675   680   685

Lys Asp Ser Pro Val Ala Ile Pro Met Ser Ser Gly Asp Thr Glu Asp
    690   695   700

Pro Gly Val Ala Ser Gly Tyr Val Ser Ser Ala Asp Leu Val Phe Thr
705   710   715   720

Pro Asn Ser Gly Ala Ser Ser Val Ser Leu Val Pro Ser Leu Gly Leu
                725   730   735

Pro Ser Asp Gln Thr Pro Ser Leu Cys Pro Gly Leu Ala Ser Gly Pro
            740   745   750

Pro Gly Ala Pro Gly Pro Val Lys Ser Gly Phe Glu Gly Tyr Val Glu
        755   760   765

Leu Pro Pro Ile Glu Gly Arg Ser Pro Arg Ser Pro Arg Asn Asn Pro
    770   775   780

Val Pro Pro Glu Ala Lys Ser Pro Val Leu Asn Pro Gly Glu Arg Pro
785   790   795   800

Ala Asp Val Ser Pro Thr Ser Pro Gln Pro Glu Gly Leu Leu Val Leu
                805   810   815

Gln Gln Val Gly Asp Tyr Cys Phe Leu Pro Gly Leu Gly Pro Gly Pro
            820   825   830

Leu Ser Leu Arg Ser Lys Pro Ser Ser Pro Gly Pro Gly Pro Glu Ile
            835   840   845

Lys Asn Leu Asp Gln Ala Phe Gln Val Lys Lys Pro Pro Gly Gln Ala
            850   855   860

Val Pro Gln Val Pro Val Ile Gln Leu Phe Lys Ala Leu Lys Gln Gln
865   870   875   880

Asp Tyr Leu Ser Leu Pro Pro Trp Glu Val Asn Lys Pro Gly Glu Val
                885   890   895

Cys

<210>   132
<211>   261
<212>   PRT
<213>   Homo sapiens

<300>
<308>   Swissprot/Q60493
<309>   1996-11-01
<313>   (1)..(261)

<400>   132

Met Ile Tyr Lys Cys Pro Met Cys Arg Glu Phe Phe Ser Glu Arg Ala
1   5   10   15

Asp Leu Phe Met His Gln Lys Val His Thr Ala Glu Lys Pro His Lys
            20   25   30

Cys Asp Lys Cys Asp Lys Gly Phe Phe His Ile Ser Glu Leu His Ile
            35   40   45

His Trp Arg Asp His Thr Gly Glu Lys Val Tyr Lys Cys Asp Asp Cys
        50   55   60

Gly Lys Asp Phe Ser Thr Thr Thr Lys Leu Asn Arg His Lys Lys Ile
65   70   75   80

His Thr Val Glu Lys Pro Tyr Lys Cys Tyr Glu Cys Gly Lys Ala Phe
                85   90   95

Asn Trp Ser Pro His Leu Gln Ile His Met Arg Val His Thr Gly Glu
            100   105   110

Lys Pro Tyr Val Cys Ser Glu Cys Gly Arg Gly Phe Ser Asn Ser Ser
            115   120   125

Asn Leu Cys Met His Gln Arg Val His Thr Gly Glu Lys Pro Phe Lys
        130   135   140

Cys Glu Glu Cys Gly Lys Ala Phe Arg His Thr Ser Ser Leu Cys Met
145   150   155   160

His Gln Arg Val His Thr Gly Glu Lys Pro Tyr Lys Cys Tyr Glu Cys
                165   170   175

Gly Lys Ala Phe Ser Gln Ser Ser Ser Leu Cys Ile His Gln Arg Val
            180   185   190

His Thr Gly Glu Lys Pro Tyr Arg Cys Cys Gly Cys Gly Lys Ala Phe
        195   200   205

Ser Gln Ser Ser Ser Leu Cys Ile His Gln Arg Val His Thr Gly Glu
    210   215   220

Lys Pro Phe Lys Cys Asp Glu Cys Gly Lys Ala Phe Ser Gln Ser Thr
225   230   235   240

Ser Leu Cys Ile His Gln Arg Val His Thr Lys Glu Arg Asn His Leu
                245   250   255

Lys Ile Ser Val Ile
            260

<313> (1)..(296)

<400> 133

Met His Arg Arg Arg Ser Arg Ser Cys Arg Glu Asp Gln Lys Pro Val
1   5   10   15

Met Asp Asp Gln Arg Asp Leu Ile Ser Asn Asn Glu Gln Leu Pro Met
            20   25   30

Leu Gly Arg Arg Pro Gly Ala Pro Glu Ser Lys Cys Ser Arg Gly Ala
        35   40   45

Leu Tyr Thr Gly Phe Ser Ile Leu Val Thr Leu Leu Leu Ala Gly Gln
    50   55   60

Ala Thr Thr Ala Tyr Phe Leu Tyr Gln Gln Gln Gly Arg Leu Asp Lys
65   70   75   80

Leu Thr Val Thr Ser Gln Asn Leu Gln Leu Glu Asn Leu Arg Met Lys
                85   90   95

Leu Pro Lys Pro Pro Lys Pro Val Ser Lys Met Arg Met Ala Thr Pro
            100   105   110

Leu Leu Met Gln Ala Leu Pro Met Gly Ala Leu Pro Gln Gly Pro Met
        115   120   125

Gln Asn Ala Thr Lys Tyr Gly Asn Met Thr Glu Asp His Val Met His
    130   135   140

Leu Leu Gln Asn Ala Asp Pro Leu Lys Val Tyr Pro Pro Leu Lys Gly
145   150   155   160

Ser Phe Pro Glu Asn Leu Arg His Leu Lys Asn Thr Met Glu Thr Ile
                165   170   175

Asp Trp Lys Val Phe Glu Ser Trp Met His His Trp Leu Leu Phe Glu
            180   185   190

Met Ser Arg His Ser Leu Glu Gln Lys Pro Thr Asp Ala Pro Pro Lys
        195   200   205

Val Leu Thr Lys Cys Gln Glu Glu Val Ser His Ile Pro Ala Val His

Pro Gly Ser Phe Arg Pro Lys Cys Asp Glu Asn Gly Asn Tyr Leu Pro
225   230   235   240

Leu Gln Cys Tyr Gly Ser Ile Gly Tyr Cys Trp Cys Val Phe Pro Asn
                    245   250   255

Gly Thr Glu Val Pro Asn Thr Arg Ser Arg Gly His His Asn Cys Ser
                260   265   270

Glu Ser Leu Glu Leu Glu Asp Pro Ser Ser Gly Leu Gly Val Thr Lys
            275   280   285

Gln Asp Leu Gly Pro Val Pro Met
    290   295

<210>   134
<211>   163
<212>   PRT
<213>   Homo sapiens

<300>
<308>   Swissprot/Q99969
<309>   2000-05-30
<313>   (1)..(163)

<400>   134

Met Arg Arg Leu Leu Ile Pro Leu Ala Leu Trp Leu Gly Ala Val Gly
1   5   10   15

Val Gly Val Ala Glu Leu Thr Glu Ala Gln Arg Arg Gly Leu Gln Val
                20   25   30

Ala Leu Glu Glu Phe His Lys His Pro Pro Val Gln Trp Ala Phe Gln
            35   40   45

Glu Thr Ser Val Glu Ser Ala Val Asp Thr Pro Phe Pro Ala Gly Ile
        50   55   60

Phe Val Arg Leu Glu Phe Lys Leu Gln Gln Thr Ser Cys Arg Lys Arg
65   70   75   80

Asp Trp Lys Lys Pro Glu Cys Lys Val Arg Pro Asn Gly Arg Lys Arg
                85   90   95

```
Lys Cys Leu Ala Cys Ile Lys Leu Gly Ser Glu Asp Lys Val Leu Gly
            100                 105                 110

Arg Leu Val His Cys Pro Ile Glu Thr Gln Val Leu Arg Glu Ala Glu
            115                 120                 125

Glu His Gln Glu Thr Gln Cys Leu Arg Val Gln Arg Ala Gly Glu Asp
            130                 135                 140

Pro His Ser Phe Tyr Phe Pro Gly Gln Phe Ala Phe Ser Lys Ala Leu
145                 150                 155                 160

Pro Arg Ser


<210>  135
<211>  2386
<212>  PRT
<213>  Homo sapiens

<300>
<308>  Swissprot/P02751
<309>  1986-07-21
<313>  (1)..(2386)

<400>  135

Met Leu Arg Gly Pro Gly Pro Gly Leu Leu Leu Leu Ala Val Gln Cys
1                 5                  10                  15

Leu Gly Thr Ala Val Pro Ser Thr Gly Ala Ser Lys Ser Lys Arg Gln
            20                  25                  30

Ala Gln Gln Met Val Gln Pro Gln Ser Pro Val Ala Val Ser Gln Ser
            35                  40                  45

Lys Pro Gly Cys Tyr Asp Asn Gly Lys His Tyr Gln Ile Asn Gln Gln
            50                  55                  60

Trp Glu Arg Thr Tyr Leu Gly Asn Ala Leu Val Cys Thr Cys Tyr Gly
65                  70                  75                  80

Gly Ser Arg Gly Phe Asn Cys Glu Ser Lys Pro Glu Ala Glu Glu Thr
                  85                  90                  95
```

```
Cys Phe Asp Lys Tyr Thr Gly Asn Thr Tyr Arg Val Gly Asp Thr Tyr
        100             105                 110


Glu Arg Pro Lys Asp Ser Met Ile Trp Asp Cys Thr Cys Ile Gly Ala
        115             120                 125


Gly Arg Gly Arg Ile Ser Cys Thr Ile Ala Asn Arg Cys His Glu Gly
    130             135                 140


Gly Gln Ser Tyr Lys Ile Gly Asp Thr Trp Arg Arg Pro His Glu Thr
145             150                 155                 160


Gly Gly Tyr Met Leu Glu Cys Val Cys Leu Gly Asn Gly Lys Gly Glu
                165                 170                 175


Trp Thr Cys Lys Pro Ile Ala Glu Lys Cys Phe Asp His Ala Ala Gly
            180             185                 190


Thr Ser Tyr Val Val Gly Glu Thr Trp Glu Lys Pro Tyr Gln Gly Trp
        195             200                 205


Met Met Val Asp Cys Thr Cys Leu Gly Glu Gly Ser Gly Arg Ile Thr
    210             215                 220


Cys Thr Ser Arg Asn Arg Cys Asn Asp Gln Asp Thr Arg Thr Ser Tyr
225             230                 235                 240


Arg Ile Gly Asp Thr Trp Ser Lys Lys Asp Asn Arg Gly Asn Leu Leu
                245             250                 255


Gln Cys Ile Cys Thr Gly Asn Gly Arg Gly Glu Trp Lys Cys Glu Arg
            260             265                 270


His Thr Ser Val Gln Thr Thr Ser Ser Gly Ser Gly Pro Phe Thr Asp
            275             280                 285


Val Arg Ala Ala Val Tyr Gln Pro Gln Pro His Pro Gln Pro Pro Pro
    290             295                 300


Tyr Gly His Cys Val Thr Asp Ser Gly Val Val Tyr Ser Val Gly Met
305             310                 315                 320
```

Gln Trp Leu Lys Thr Gln Gly Asn Lys Gln Met Leu Cys Thr Cys Leu
            325   330   335

Gly Asn Gly Val Ser Cys Gln Glu Thr Ala Val Thr Gln Thr Tyr Gly
            340   345   350

Gly Asn Ser Asn Gly Glu Pro Cys Val Leu Pro Phe Thr Tyr Asn Gly
            355   360   365

Arg Thr Phe Tyr Ser Cys Thr Thr Glu Gly Arg Gln Asp Gly His Leu
370   375   380

Trp Cys Ser Thr Thr Ser Asn Tyr Glu Gln Asp Gln Lys Tyr Ser Phe
385   390   395   400

Cys Thr Asp His Thr Val Leu Val Gln Thr Gln Gly Gly Asn Ser Asn
                    405   410   415

Gly Ala Leu Cys His Phe Pro Phe Leu Tyr Asn Asn His Asn Tyr Thr
            420   425   430

Asp Cys Thr Ser Glu Gly Arg Arg Asp Asn Met Lys Trp Cys Gly Thr
            435   440   445

Thr Gln Asn Tyr Asp Ala Asp Gln Lys Phe Gly Phe Cys Pro Met Ala
            450   455   460

Ala His Glu Glu Ile Cys Thr Thr Asn Glu Gly Val Met Tyr Arg Ile
465   470   475   480

Gly Asp Gln Trp Asp Lys Gln His Asp Met Gly His Met Met Arg Cys
                    485   490   495

Thr Cys Val Gly Asn Gly Arg Gly Glu Trp Thr Cys Ile Ala Tyr Ser
            500   505   510

Gln Leu Arg Asp Gln Cys Ile Val Asp Asp Ile Thr Tyr Asn Val Asn
            515   520   525

Asp Thr Phe His Lys Arg His Glu Glu Gly His Met Leu Asn Cys Thr
530   535   540

Cys Phe Gly Gln Gly Arg Gly Arg Trp Lys Cys Asp Pro Val Asp Gln

Cys Gln Asp Ser Glu Thr Gly Thr Phe Tyr Gln Ile Gly Asp Ser Trp
                565   570   575

Glu Lys Tyr Val His Gly Val Arg Tyr Gln Cys Tyr Cys Tyr Gly Arg
            580   585   590

Gly Ile Gly Glu Trp His Cys Gln Pro Leu Gln Thr Tyr Pro Ser Ser
            595   600   605

Ser Gly Pro Val Glu Val Phe Ile Thr Glu Thr Pro Ser Gln Pro Asn
            610   615   620

Ser His Pro Ile Gln Trp Asn Ala Pro Gln Pro Ser His Ile Ser Lys
625   630   635   640

Tyr Ile Leu Arg Trp Arg Pro Lys Asn Ser Val Gly Arg Trp Lys Glu
            645   650   655

Ala Thr Ile Pro Gly His Leu Asn Ser Tyr Thr Ile Lys Gly Leu Lys
            660   665   670

Pro Gly Val Val Tyr Glu Gly Gln Leu Ile Ser Ile Gln Gln Tyr Gly
            675   680   685

His Gln Glu Val Thr Arg Phe Asp Phe Thr Thr Thr Ser Thr Ser Thr
            690   695   700

Pro Val Thr Ser Asn Thr Val Thr Gly Glu Thr Thr Pro Phe Ser Pro
705   710   715   720

Leu Val Ala Thr Ser Glu Ser Val Thr Glu Ile Thr Ala Ser Ser Phe
                725   730   735

Val Val Ser Trp Val Ser Ala Ser Asp Thr Val Ser Gly Phe Arg Val
            740   745   750

Glu Tyr Glu Leu Ser Glu Glu Gly Asp Glu Pro Gln Tyr Leu Asp Leu
            755   760   765

Pro Ser Thr Ala Thr Ser Val Asn Ile Pro Asp Leu Leu Pro Gly Arg
            770   775   780

Lys Tyr Ile Val Asn Val Tyr Gln Ile Ser Glu Asp Gly Glu Gln Ser
785   790   795   800

Leu Ile Leu Ser Thr Ser Gln Thr Thr Ala Pro Asp Ala Pro Pro Asp
                805   810   815

Pro Thr Val Asp Gln Val Asp Asp Thr Ser Ile Val Val Arg Trp Ser
                820   825   830

Arg Pro Gln Ala Pro Ile Thr Gly Tyr Arg Ile Val Tyr Ser Pro Ser
                835   840   845

Val Glu Gly Ser Ser Thr Glu Leu Asn Leu Pro Glu Thr Ala Asn Ser
        850   855   860

Val Thr Leu Ser Asp Leu Gln Pro Gly Val Gln Tyr Asn Ile Thr Ile
865   870   875   880

Tyr Ala Val Glu Glu Asn Gln Glu Ser Thr Pro Val Val Ile Gln Gln
                885   890   895

Glu Thr Thr Gly Thr Pro Arg Ser Asp Thr Val Pro Ser Pro Arg Asp
                900   905   910

Leu Gln Phe Val Glu Val Thr Asp Val Lys Val Thr Ile Met Trp Thr
                915   920   925

Pro Pro Glu Ser Ala Val Thr Gly Tyr Arg Val Asp Val Ile Pro Val
        930   935   940

Asn Leu Pro Gly Glu His Gly Gln Arg Leu Pro Ile Ser Arg Asn Thr
945   950   955   960

Phe Ala Glu Val Thr Gly Leu Ser Pro Gly Val Thr Tyr Tyr Phe Lys
                965   970   975

Val Phe Ala Val Ser His Gly Arg Glu Ser Lys Pro Leu Thr Ala Gln
                980   985   990

Gln Thr Thr Lys Leu Asp Ala Pro Thr Asn Leu Gln Phe Val Asn Glu
        995   1000   1005

Thr Asp Ser Thr Val Leu Val Arg Trp Thr Pro Pro Arg Ala Gln
    1010   1015   1020

Ile Thr Gly Tyr Arg Leu Thr Val Gly Leu Thr Arg Arg Gly Gln
    1025   1030   1035

Pro Arg Gln Tyr Asn Val Gly Pro Ser Val Ser Lys Tyr Pro Leu
    1040   1045   1050

Arg Asn Leu Gln Pro Ala Ser Glu Tyr Thr Val Ser Leu Val Ala
    1055   1060   1065

Ile Lys Gly Asn Gln Glu Ser Pro Lys Ala Thr Gly Val Phe Thr
    1070   1075   1080

Thr Leu Gln Pro Gly Ser Ser Ile Pro Pro Tyr Asn Thr Glu Val
    1085   1090   1095

Thr Glu Thr Thr Ile Val Ile Thr Trp Thr Pro Ala Pro Arg Ile
    1100   1105   1110

Gly Phe Lys Leu Gly Val Arg Pro Ser Gln Gly Gly Glu Ala Pro
    1115   1120   1125

Arg Glu Val Thr Ser Asp Ser Gly Ser Ile Val Val Ser Gly Leu
    1130   1135   1140

Thr Pro Gly Val Glu Tyr Val Tyr Thr Ile Gln Val Leu Arg Asp
    1145   1150   1155

Gly Gln Glu Arg Asp Ala Pro Ile Val Asn Lys Val Val Thr Pro
    1160   1165   1170

Leu Ser Pro Pro Thr Asn Leu His Leu Glu Ala Asn Pro Asp Thr
    1175   1180   1185

Gly Val Leu Thr Val Ser Trp Glu Arg Ser Thr Thr Pro Asp Ile
    1190   1195   1200

Thr Gly Tyr Arg Ile Thr Thr Thr Pro Thr Asn Gly Gln Gln Gly
    1205   1210   1215

Asn Ser Leu Glu Glu Val Val His Ala Asp Gln Ser Ser Cys Thr
    1220   1225   1230

Phe Asp Asn Leu Ser Pro Gly Leu Glu Tyr Asn Val Ser Val Tyr
    1235   1240   1245

Thr Val Lys Asp Asp Lys Glu Ser Val Pro Ile Ser Asp Thr Ile
    1250   1255   1260

Ile Pro Ala Val Pro Pro Pro Thr Asp Leu Arg Phe Thr Asn Ile
    1265   1270   1275

Gly Pro Asp Thr Met Arg Val Thr Trp Ala Pro Pro Pro Ser Ile
    1280   1285   1290

Asp Leu Thr Asn Phe Leu Val Arg Tyr Ser Pro Val Lys Asn Glu
    1295   1300   1305

Glu Asp Val Ala Glu Leu Ser Ile Ser Pro Ser Asp Asn Ala Val
    1310   1315   1320

Val Leu Thr Asn Leu Leu Pro Gly Thr Glu Tyr Val Val Ser Val
    1325   1330   1335

Ser Ser Val Tyr Glu Gln His Glu Ser Thr Pro Leu Arg Gly Arg
    1340   1345   1350

Gln Lys Thr Gly Leu Asp Ser Pro Thr Gly Ile Asp Phe Ser Asp
    1355   1360   1365

Ile Thr Ala Asn Ser Phe Thr Val His Trp Ile Ala Pro Arg Ala
    1370   1375   1380

Thr Ile Thr Gly Tyr Arg Ile Arg His His Pro Glu His Phe Ser
    1385   1390   1395

Gly Arg Pro Arg Glu Asp Arg Val Pro His Ser Arg Asn Ser Ile
    1400   1405   1410

Thr Leu Thr Asn Leu Thr Pro Gly Thr Glu Tyr Val Val Ser Ile
    1415   1420   1425

Val Ala Leu Asn Gly Arg Glu Glu Ser Pro Leu Leu Ile Gly Gln

```
            1430                    1435                    1440


Gln Ser  Thr Val Ser Asp Val  Pro Arg Asp Leu Glu  Val Val Ala
    1445                    1450                    1455


Ala Thr  Pro Thr Ser Leu Leu  Ile Ser Trp Asp Ala  Pro Ala Val
    1460                    1465                    1470


Thr Val  Arg Tyr Tyr Arg Ile  Thr Tyr Gly Glu Thr  Gly Gly Asn
    1475                    1480                    1485


Ser Pro  Val Gln Glu Phe Thr  Val Pro Gly Ser Lys  Ser Thr Ala
    1490                    1495                    1500


Thr Ile  Ser Gly Leu Lys Pro  Gly Val Asp Tyr Thr  Ile Thr Val
    1505                    1510                    1515


Tyr Ala  Val Thr Gly Arg Gly  Asp Ser Pro Ala Ser  Ser Lys Pro
    1520                    1525                    1530


Ile Ser  Ile Asn Tyr Arg Thr  Glu Ile Asp Lys Pro  Ser Gln Met
    1535                    1540                    1545


Gln Val  Thr Asp Val Gln Asp  Asn Ser Ile Ser Val  Lys Trp Leu
    1550                    1555                    1560


Pro Ser  Ser Ser Pro Val Thr  Gly Tyr Arg Val Thr  Thr Thr Pro
    1565                    1570                    1575


Lys Asn  Gly Pro Gly Pro Thr  Lys Thr Lys Thr Ala  Gly Pro Asp
    1580                    1585                    1590


Gln Thr  Glu Met Thr Ile Glu  Gly Leu Gln Pro Thr  Val Glu Tyr
    1595                    1600                    1605


Val Val  Ser Val Tyr Ala Gln  Asn Pro Ser Gly Glu  Ser Gln Pro
    1610                    1615                    1620


Leu Val  Gln Thr Ala Val Thr  Asn Ile Asp Arg Pro  Lys Gly Leu
    1625                    1630                    1635


Ala Phe  Thr Asp Val Asp Val  Asp Ser Ile Lys Ile  Ala Trp Glu
    1640                    1645                    1650
```

Ser Pro Gln Gly Gln Val Ser Arg Tyr Arg Val Thr Tyr Ser Ser
    1655   1660   1665

Pro Glu Asp Gly Ile His Glu Leu Phe Pro Ala Pro Asp Gly Glu
    1670   1675   1680

Glu Asp Thr Ala Glu Leu Gln Gly Leu Arg Pro Gly Ser Glu Tyr
    1685   1690   1695

Thr Val Ser Val Val Ala Leu His Asp Asp Met Glu Ser Gln Pro
    1700   1705   1710

Leu Ile Gly Thr Gln Ser Thr Ala Ile Pro Ala Pro Thr Asp Leu
    1715   1720   1725

Lys Phe Thr Gln Val Thr Pro Thr Ser Leu Ser Ala Gln Trp Thr
    1730   1735   1740

Pro Pro Asn Val Gln Leu Thr Gly Tyr Arg Val Arg Val Thr Pro
    1745   1750   1755

Lys Glu Lys Thr Gly Pro Met Lys Glu Ile Asn Leu Ala Pro Asp
    1760   1765   1770

Ser Ser Ser Val Val Val Ser Gly Leu Met Val Ala Thr Lys Tyr
    1775   1780   1785

Glu Val Ser Val Tyr Ala Leu Lys Asp Thr Leu Thr Ser Arg Pro
    1790   1795   1800

Ala Gln Gly Val Val Thr Thr Leu Glu Asn Val Ser Pro Pro Arg
    1805   1810   1815

Arg Ala Arg Val Thr Asp Ala Thr Glu Thr Thr Ile Thr Ile Ser
    1820   1925   1830

Trp Arg Thr Lys Thr Glu Thr Ile Thr Gly Phe Gln Val Asp Ala
    1835   1840   1845

Val Pro Ala Asn Gly Gln Thr Pro Ile Gln Arg Thr Ile Lys Pro
    1850   1855   1860

Asp Val Arg Ser Tyr Thr Ile Thr Gly Leu Gln Pro Gly Thr Asp
    1865   1870   1875

Tyr Lys Ile Tyr Leu Tyr Thr Leu Asn Asp Asn Ala Arg Ser Ser
    1880   1885   1890

Pro Val Val Ile Asp Ala Ser Thr Ala Ile Asp Ala Pro Ser Asn
    1895   1900   1905

Leu Arg Phe Leu Ala Thr Thr Pro Asn Ser Leu Leu Val Ser Trp
    1910   1915   1920

Gln Pro Pro Arg Ala Arg Ile Thr Gly Tyr Ile Ile Lys Tyr Glu
    1925   1930   1935

Lys Pro Gly Ser Pro Pro Arg Glu Val Val Pro Arg Pro Arg Pro
    1940   1945   1950

Gly Val Thr Glu Ala Thr Ile Thr Gly Leu Glu Pro Gly Thr Glu
    1955   1960   1965

Tyr Thr Ile Tyr Val Ile Ala Leu Lys Asn Asn Gln Lys Ser Glu
    1970   1975   1980

Pro Leu Ile Gly Arg Lys Lys Thr Asp Glu Leu Pro Gln Leu Val
    1985   1990   1995

Thr Leu Pro His Pro Asn Leu His Gly Pro Glu Ile Leu Asp Val
    2000   2005   2010

Pro Ser Thr Val Gln Lys Thr Pro Phe Val Thr His Pro Gly Tyr
    2015   2020   2025

Asp Thr Gly Asn Gly Ile Gln Leu Pro Gly Thr Ser Gly Gln Gln
    2030   2035   2040

Pro Ser Val Gly Gln Gln Met Ile Phe Glu Glu His Gly Phe Arg
    2045   2050   2055

Arg Thr Thr Pro Pro Thr Thr Ala Thr Pro Ile Arg His Arg Pro
    2060   2065   2070

Arg Pro Tyr Pro Pro Asn Val Gly Glu Glu Ile Gln Ile Gly His
    2075   2080   2085

Ile Pro Arg Glu Asp Val Asp Tyr His Leu Tyr Pro His Gly Pro
    2090   2095   2100

Gly Leu Asn Pro Asn Ala Ser Thr Gly Gln Glu Ala Leu Ser Gln
    2105   2110   2115

Thr Thr Ile Ser Trp Ala Pro Phe Gln Asp Thr Ser Glu Tyr Ile
    2120   2125   2130

Ile Ser Cys His Pro Val Gly Thr Asp Glu Glu Pro Leu Gln Phe
    2135   2140   2145

Arg Val Pro Gly Thr Ser Thr Ser Ala Thr Leu Thr Gly Leu Thr
    2150   2155   2160

Arg Gly Ala Thr Tyr Asn Ile Ile Val Glu Ala Leu Lys Asp Gln
    2165   2170   2175

Gln Arg His Lys Val Arg Glu Glu Val Val Thr Val Gly Asn Ser
    2180   2185   2190

Val Asn Glu Gly Leu Asn Gln Pro Thr Asp Asp Ser Cys Phe Asp
    2195   2200   2205

Pro Tyr Thr Val Ser His Tyr Ala Val Gly Asp Glu Trp Glu Arg
    2210   2215   2220

Met Ser Glu Ser Gly Phe Lys Leu Leu Cys Gln Cys Leu Gly Phe
    2225   2230   2235

Gly Ser Gly His Phe Arg Cys Asp Ser Ser Arg Trp Cys His Asp
    2240   2245   2250

Asn Gly Val Asn Tyr Lys Ile Gly Glu Lys Trp Asp Arg Gln Gly
    2255   2260   2265

Glu Asn Gly Gln Met Met Ser Cys Thr Cys Leu Gly Asn Gly Lys
    2270   2275   2280

Gly Glu Phe Lys Cys Asp Pro His Glu Ala Thr Cys Tyr Asp Asp

```
              2285                      2290                      2295


     Gly Lys   Thr Tyr His Val Gly   Glu Gln Trp Gln Lys   Glu Tyr Leu
         2300                      2305                  2310


     Gly Ala   Ile Cys Ser Cys Thr   Cys Phe Gly Gly Gln   Arg Gly Trp
         2315                      2320                  2325


     Arg Cys   Asp Asn Cys Arg Arg   Pro Gly Gly Glu Pro   Ser Pro Glu
         2330                      2335                  2340


     Gly Thr   Thr Gly Gln Ser Tyr   Asn Gln Tyr Ser Gln   Arg Tyr His
         2345                      2350                  2355


     Gln Arg   Thr Asn Thr Asn Val   Asn Cys Pro Ile Glu   Cys Phe Met
         2360                      2365                  2370


     Pro Leu   Asp Val Gln Ala Asp   Arg Glu Asp Ser Arg   Glu
         2375                      2380                  2385


     <210>   136
     <211>   339
     <212>   PRT
     <213>   Homo sapiens

     <300>
     <308>   Swissprot/P07858
     <309>   1988-08-01
     <313>   (1)..(339)

     <400>   136

     Met Trp Gln Leu Trp Ala Ser Leu Cys Cys Leu Leu Val Leu Ala Asn
     1               5                   10                  15


     Ala Arg Ser Arg Pro Ser Phe His Pro Val Ser Asp Glu Leu Val Asn
                     20                  25                  30


     Tyr Val Asn Lys Arg Asn Thr Thr Trp Gln Ala Gly His Asn Phe Tyr
             35                  40                  45


     Asn Val Asp Met Ser Tyr Leu Lys Arg Leu Cys Gly Thr Phe Leu Gly
         50                  55                  60


     Gly Pro Lys Pro Pro Gln Arg Val Met Phe Thr Glu Asp Leu Lys Leu
     65                  70                  75                  80
```

Pro Ala Ser Phe Asp Ala Arg Glu Gln Trp Pro Gln Cys Pro Thr Ile
              85   90   95

Lys Glu Ile Arg Asp Gln Gly Ser Cys Gly Ser Cys Trp Ala Phe Gly
              100   105   110

Ala Val Glu Ala Ile Ser Asp Arg Ile Cys Ile His Thr Asn Ala His
          115   120   125

Val Ser Val Glu Val Ser Ala Glu Asp Leu Leu Thr Cys Cys Gly Ser
          130   135   140

Met Cys Gly Asp Gly Cys Asn Gly Gly Tyr Pro Ala Glu Ala Trp Asn
145   150   155   160

Phe Trp Thr Arg Lys Gly Leu Val Ser Gly Gly Leu Tyr Glu Ser His
              165   170   175

Val Gly Cys Arg Pro Tyr Ser Ile Pro Pro Cys Glu His His Val Asn
              180   185   190

Gly Ser Arg Pro Pro Cys Thr Gly Glu Gly Asp Thr Pro Lys Cys Ser
              195   200   205

Lys Ile Cys Glu Pro Gly Tyr Ser Pro Thr Tyr Lys Gln Asp Lys His
          210   215   220

Tyr Gly Tyr Asn Ser Tyr Ser Val Ser Asn Ser Glu Lys Asp Ile Met
225   230   235   240

Ala Glu Ile Tyr Lys Asn Gly Pro Val Glu Gly Ala Phe Ser Val Tyr
              245   250   255

Ser Asp Phe Leu Leu Tyr Lys Ser Gly Val Tyr Gln His Val Thr Gly
              260   265   270

Glu Met Met Gly Gly His Ala Ile Arg Ile Leu Gly Trp Gly Val Glu
          275   280   285

Asn Gly Thr Pro Tyr Trp Leu Val Ala Asn Ser Trp Asn Thr Asp Trp
          290   295   300

Gly Asp Asn Gly Phe Phe Lys Ile Leu Arg Gly Gln Asp His Cys Gly
305   310   315   320

Ile Glu Ser Glu Val Val Ala Gly Ile Pro Arg Thr Asp Gln Tyr Trp
                    325   330   335

Glu Lys Ile

<210> 137
<211> 1249
<212> PRT
<213> Homo sapiens

<300>
<308> Swissprot/P29144
<309> 1992-12-01
<313> (1)..(1249)

<400> 137

Met Ala Thr Ala Ala Thr Glu Glu Pro Phe Pro Phe His Gly Leu Leu
1   5   10   15

Pro Lys Lys Glu Thr Gly Ala Ala Ser Phe Leu Cys Arg Tyr Pro Glu
                20   25   30

Tyr Asp Gly Arg Gly Val Leu Ile Ala Val Leu Asp Thr Gly Val Asp
            35   40   45

Pro Gly Ala Pro Gly Met Gln Val Thr Thr Asp Gly Lys Pro Lys Ile
        50   55   60

Val Asp Ile Ile Asp Thr Thr Gly Ser Gly Asp Val Asn Thr Ala Thr
65   70   75   80

Glu Val Glu Pro Lys Asp Gly Glu Ile Val Gly Leu Ser Gly Arg Val
                85   90   95

Leu Lys Ile Pro Ala Ser Trp Thr Asn Pro Ser Gly Lys Tyr His Ile
                100   105   110

Gly Ile Lys Asn Gly Tyr Asp Phe Tyr Pro Lys Ala Leu Lys Glu Arg
            115   120   125

Ile Gln Lys Glu Arg Lys Glu Lys Ile Trp Asp Pro Val His Arg Val
    130   135   140

Ala Leu Ala Glu Ala Cys Arg Lys Gln Glu Phe Asp Val Ala Asn
145   150   155   160

Asn Gly Ser Ser Gln Ala Asn Lys Leu Ile Lys Glu Glu Leu Gln Ser
                165   170   175

Gln Val Glu Leu Leu Asn Ser Phe Glu Lys Lys Tyr Ser Asp Pro Gly
            180   185   190

Pro Val Tyr Asp Cys Leu Val Trp His Asp Gly Glu Val Trp Arg Ala
            195   200   205

Cys Ile Asp Ser Asn Glu Asp Gly Asp Leu Ser Lys Ser Thr Val Leu
    210   215   220

Arg Asn Tyr Lys Glu Ala Gln Glu Tyr Gly Ser Phe Gly Thr Ala Glu
225   230   235   240

Met Leu Asn Tyr Ser Val Asn Ile Tyr Asp Asp Gly Asn Leu Leu Ser
                245   250   255

Ile Val Thr Ser Gly Gly Ala His Gly Thr His Val Ala Ser Ile Ala
                260   265   270

Ala Gly His Phe Pro Glu Glu Pro Glu Arg Asn Gly Val Ala Pro Gly
        275   280   285

Ala Gln Ile Leu Ser Ile Lys Ile Gly Asp Thr Arg Leu Ser Thr Met
    290   295   300

Glu Thr Gly Thr Gly Leu Ile Arg Ala Met Ile Glu Val Ile Asn His
305   310   315   320

Lys Cys Asp Leu Val Asn Tyr Ser Tyr Gly Glu Ala Thr His Trp Pro
                325   330   335

Asn Ser Gly Arg Ile Cys Glu Val Ile Asn Glu Ala Val Trp Lys His
            340   345   350

Asn Ile Ile Tyr Val Ser Ser Ala Gly Asn Asn Gly Pro Cys Leu Ser

Thr Val Gly Cys Pro Gly Gly Thr Thr Ser Ser Val Ile Gly Val Gly
    370   375   380

Ala Tyr Val Ser Pro Asp Met Met Val Ala Glu Tyr Ser Leu Arg Glu
385   390   395   400

Lys Leu Pro Ala Asn Gln Tyr Thr Trp Ser Ser Arg Gly Pro Ser Ala
                405   410   415

Asp Gly Ala Leu Gly Val Ser Ile Ser Ala Pro Gly Gly Ala Ile Ala
            420   425   430

Ser Val Pro Asn Trp Thr Leu Arg Gly Thr Gln Leu Met Asn Gly Thr
        435   440   445

Ser Met Ser Ser Pro Asn Ala Cys Gly Gly Ile Ala Leu Ile Leu Ser
    450   455   460

Gly Leu Lys Ala Asn Asn Ile Asp Tyr Thr Val His Ser Val Arg Arg
465   470   475   480

Ala Leu Glu Asn Thr Ala Val Lys Ala Asp Asn Ile Glu Val Phe Ala
            485   490   495

Gln Gly His Gly Ile Ile Gln Val Asp Lys Ala Tyr Asp Tyr Leu Val
        500   505   510

Gln Asn Thr Ser Phe Ala Asn Lys Leu Gly Phe Thr Val Thr Val Gly
    515   520   525

Asn Asn Arg Gly Ile Tyr Leu Arg Asp Pro Val Gln Val Ala Ala Pro
    530   535   540

Ser Asp His Gly Val Gly Ile Glu Pro Val Phe Pro Glu Asn Thr Glu
545   550   555   560

Asn Ser Glu Lys Ile Ser Leu Gln Leu His Leu Ala Leu Thr Ser Asn
                565   570   575

Ser Ser Trp Val Gln Cys Pro Ser His Leu Glu Leu Met Asn Gln Cys
        580   585   590

Arg His Ile Asn Ile Arg Val Asp Pro Arg Gly Leu Arg Glu Gly Leu
        595   600   605

His Tyr Thr Glu Val Cys Gly Tyr Asp Ile Ala Ser Pro Asn Ala Gly
    610   615   620

Pro Leu Phe Arg Val Pro Ile Thr Ala Val Ile Ala Ala Lys Val Asn
625   630   635   640

Glu Ser Ser His Tyr Asp Leu Ala Phe Thr Asp Val His Phe Lys Pro
            645   650   655

Gly Gln Ile Arg Arg His Phe Ile Glu Val Pro Glu Gly Ala Thr Trp
            660   665   670

Ala Glu Val Thr Val Cys Ser Cys Ser Ser Glu Val Ser Ala Lys Phe
        675   680   685

Val Leu His Ala Val Gln Leu Val Lys Gln Arg Ala Tyr Arg Ser His
    690   695   700

Glu Phe Tyr Lys Phe Cys Ser Leu Pro Glu Lys Gly Thr Leu Thr Glu
705   710   715   720

Ala Phe Pro Val Leu Gly Gly Lys Ala Ile Glu Phe Cys Ile Ala Arg
            725   730   735

Trp Trp Ala Ser Leu Ser Asp Val Asn Ile Asp Tyr Thr Ile Ser Phe
        740   745   750

His Gly Ile Val Cys Thr Ala Pro Gln Leu Asn Ile His Ala Ser Glu
        755   760   765

Gly Ile Asn Arg Phe Asp Val Gln Ser Ser Leu Lys Tyr Glu Asp Leu
    770   775   780

Ala Pro Cys Ile Thr Leu Lys Asn Trp Val Gln Thr Leu Arg Pro Val
785   790   795   800

Ser Ala Lys Thr Lys Pro Leu Gly Ser Arg Asp Val Leu Pro Asn Asn
            805   810   815

Arg Gln Leu Tyr Glu Met Val Leu Thr Tyr Asn Phe His Gln Pro Lys
          820   825   830

Ser Gly Glu Val Thr Pro Ser Cys Pro Leu Leu Cys Glu Leu Leu Tyr
          835   840   845

Glu Ser Glu Phe Asp Ser Gln Leu Trp Ile Ile Phe Asp Gln Asn Lys
          850   855   860

Arg Gln Met Gly Ser Gly Asp Ala Tyr Pro His Gln Tyr Ser Leu Lys
865   870   875   880

Leu Glu Lys Gly Asp Tyr Thr Ile Arg Leu Gln Ile Arg His Glu Gln
                    885   890   895

Ile Ser Asp Leu Glu Arg Leu Lys Asp Leu Pro Phe Ile Val Ser His
          900   905   910

Arg Leu Ser Asn Thr Leu Ser Leu Asp Ile His Glu Asn His Ser Phe
          915   920   925

Ala Leu Leu Gly Lys Lys Lys Ser Ser Asn Leu Thr Leu Pro Pro Lys
          930   935   940

Tyr Asn Gln Pro Phe Phe Val Thr Ser Leu Pro Asp Asp Lys Ile Pro
945   950   955   960

Lys Gly Ala Gly Pro Gly Cys Tyr Leu Ala Gly Ser Leu Thr Leu Ser
                    965   970   975

Lys Thr Glu Leu Gly Lys Lys Ala Asp Val Ile Pro Val His Tyr Tyr
          980   985   990

Leu Ile Pro Pro Pro Thr Lys Thr Lys Asn Gly Ser Lys Asp Lys Glu
          995   1000   1005

Lys Asp Ser Glu Lys Glu Lys Asp Leu Lys Glu Glu Phe Thr Glu
    1010   1015   1020

Ala Leu Arg Asp Leu Lys Ile Gln Trp Met Thr Lys Leu Asp Ser
    1025   1030   1035

Ser Asp Ile Tyr Asn Glu Leu Lys Glu Thr Tyr Pro Asn Tyr Leu
    1040   1045   1050

Pro Leu Tyr Val Ala Arg Leu His Gln Leu Asp Ala Glu Lys Glu
    1055   1060   1065

Arg Met Lys Arg Leu Asn Glu Ile Val Asp Ala Ala Asn Ala Val
    1070   1075   1080

Ile Ser His Ile Asp Gln Thr Ala Leu Ala Val Tyr Ile Ala Met
    1085   1090   1095

Lys Thr Asp Pro Arg Pro Asp Ala Ala Thr Ile Lys Asn Asp Met
    1100   1105   1110

Asp Lys Gln Lys Ser Thr Leu Val Asp Ala Leu Cys Arg Lys Gly
    1115   1120   1125

Cys Ala Leu Ala Asp His Leu Leu His Thr Gln Ala Gln Asp Gly
    1130   1135   1140

Ala Ile Ser Thr Asp Ala Glu Gly Lys Glu Glu Glu Gly Glu Ser
    1145   1150   1155

Pro Leu Asp Ser Leu Ala Glu Thr Phe Trp Glu Thr Thr Lys Trp
    1160   1165   1170

Thr Asp Leu Phe Asp Asn Lys Val Leu Thr Phe Ala Tyr Lys His
    1175   1180   1185

Ala Leu Val Asn Lys Met Tyr Gly Arg Gly Leu Lys Phe Ala Thr
    1190   1195   1200

Lys Leu Val Glu Glu Lys Pro Thr Lys Glu Asn Trp Lys Asn Cys
    1205   1210   1215

Ile Gln Leu Met Lys Leu Leu Gly Trp Thr His Cys Ala Ser Phe
    1220   1225   1230

Thr Glu Asn Trp Leu Pro Ile Met Tyr Pro Pro Asp Tyr Cys Val
    1235   1240   1245

Phe

<210> 138
<211> 433
<212> PRT
<213> Homo sapiens

<300>
<308> Swissprot/Q99538
<309> 1997-11-01
<313> (1)..(433)

<400> 138

Met Val Trp Lys Val Ala Val Phe Leu Ser Val Ala Leu Gly Ile Gly
1   5   10   15

Ala Val Pro Ile Asp Asp Pro Glu Asp Gly Gly Lys His Trp Val Val
                20   25   30

Ile Val Ala Gly Ser Asn Gly Trp Tyr Asn Tyr Arg His Gln Ala Asp
            35   40   45

Ala Cys His Ala Tyr Gln Ile Ile His Arg Asn Gly Ile Pro Asp Glu
        50   55   60

Gln Ile Val Val Met Met Tyr Asp Asp Ile Ala Tyr Ser Glu Asp Asn
65   70   75   80

Pro Thr Pro Gly Ile Val Ile Asn Arg Pro Asn Gly Thr Asp Val Tyr
                85   90   95

Gln Gly Val Pro Lys Asp Tyr Thr Gly Glu Asp Val Thr Pro Gln Asn
                100   105   110

Phe Leu Ala Val Leu Arg Gly Asp Ala Glu Ala Val Lys Gly Ile Gly
        115   120   125

Ser Gly Lys Val Leu Lys Ser Gly Pro Gln Asp His Val Phe Ile Tyr
        130   135   140

Phe Thr Asp His Gly Ser Thr Gly Ile Leu Val Phe Pro Asn Glu Asp
145   150   155   160

Leu His Val Lys Asp Leu Asn Glu Thr Ile His Tyr Met Tyr Lys His
                165   170   175

Lys Met Tyr Arg Lys Met Val Phe Tyr Ile Glu Ala Cys Glu Ser Gly
        180   185   190

Ser Met Met Asn His Leu Pro Asp Asn Ile Asn Val Tyr Ala Thr Thr
        195   200   205

Ala Ala Asn Pro Arg Glu Ser Ser Tyr Ala Cys Tyr Tyr Asp Glu Lys
        210   215   220

Arg Ser Thr Tyr Leu Gly Asp Trp Tyr Ser Val Asn Trp Met Glu Asp
225   230   235   240

Ser Asp Val Glu Asp Leu Thr Lys Glu Thr Leu His Lys Gln Tyr His
                245   250   255

Leu Val Lys Ser His Thr Asn Thr Ser His Val Met Gln Tyr Gly Asn
            260   265   270

Lys Thr Ile Ser Thr Met Lys Val Met Gln Phe Gln Gly Met Lys Arg
        275   280   285

Lys Ala Ser Ser Pro Val Pro Leu Pro Pro Val Thr His Leu Asp Leu
    290   295   300

Thr Pro Ser Pro Asp Val Pro Leu Thr Ile Met Lys Arg Lys Leu Met
305   310   315   320

Asn Thr Asn Asp Leu Glu Glu Ser Arg Gln Leu Thr Glu Glu Ile Gln
            325   330   335

Arg His Leu Asp Ala Arg His Leu Ile Glu Lys Ser Val Arg Lys Ile
            340   345   350

Val Ser Leu Leu Ala Ala Ser Glu Ala Glu Val Glu Gln Leu Leu Ser
        355   360   365

Glu Arg Ala Pro Leu Thr Gly His Ser Cys Tyr Pro Glu Ala Leu Leu
        370   375   380

His Phe Arg Thr His Cys Phe Asn Trp His Ser Pro Thr Tyr Glu Tyr
385   390   395   400

Ala Leu Arg His Leu Tyr Val Leu Val Asn Leu Cys Glu Lys Pro Tyr
                405   410   415

Pro Leu His Arg Ile Lys Leu Ser Met Asp His Val Cys Leu Gly His
                420   425   430

Tyr

<210>   139
<211>   342
<212>   PRT
<213>   Homo sapiens

<300>
<308>   Swissprot/P25105
<309>   1992-05-01
<313>   (1)..(342)

<400>   139

Met Glu Pro His Asp Ser Ser His Met Asp Ser Glu Phe Arg Tyr Thr
1   5   10   15

Leu Phe Pro Ile Val Tyr Ser Ile Ile Phe Val Leu Gly Val Ile Ala
                20   25   30

Asn Gly Tyr Val Leu Trp Val Phe Ala Arg Leu Tyr Pro Cys Lys Lys
            35   40   45

Phe Asn Glu Ile Lys Ile Phe Met Val Asn Leu Thr Met Ala Asp Met
    50   55   60

Leu Phe Leu Ile Thr Leu Pro Leu Trp Ile Val Tyr Tyr Gln Asn Gln
65   70   75   80

Gly Asn Trp Ile Leu Pro Lys Phe Leu Cys Asn Val Ala Gly Cys Leu
                85   90   95

Phe Phe Ile Asn Thr Tyr Cys Ser Val Ala Phe Leu Gly Val Ile Thr
                100   105   110

Tyr Asn Arg Phe Gln Ala Val Thr Arg Pro Ile Lys Thr Ala Gln Ala
        115   120   125

Asn Thr Arg Lys Arg Gly Ile Ser Leu Ser Leu Val Ile Trp Val Ala
    130   135   140

Ile Val Gly Ala Ala Ser Tyr Phe Leu Ile Leu Asp Ser Thr Asn Thr
145   150   155   160

Val Pro Asp Ser Ala Gly Ser Gly Asn Val Thr Arg Cys Phe Glu His
                165   170   175

Tyr Glu Lys Gly Ser Val Pro Val Leu Ile Ile His Ile Phe Ile Val
                180   185   190

Phe Ser Phe Phe Leu Val Phe Leu Ile Ile Leu Phe Cys Asn Leu Val
            195   200   205

Ile Ile Arg Thr Leu Leu Met Gln Pro Val Gln Gln Gln Arg Asn Ala
    210   215   220

Glu Val Lys Arg Arg Ala Leu Trp Met Val Cys Thr Val Leu Ala Val
225   230   235   240

Phe Ile Ile Cys Phe Val Pro His His Val Val Gln Leu Pro Trp Thr
                245   250   255

Leu Ala Glu Leu Gly Phe Gln Asp Ser Lys Phe His Gln Ala Ile Asn
                260   265   270

Asp Ala His Gln Val Thr Leu Cys Leu Leu Ser Thr Asn Cys Val Leu
            275   280   285

Asp Pro Val Ile Tyr Cys Phe Leu Thr Lys Lys Phe Arg Lys His Leu
    290   295   300

Thr Glu Lys Phe Tyr Ser Met Arg Ser Ser Arg Lys Cys Ser Arg Ala
305   310   315   320

Thr Thr Asp Thr Val Thr Glu Val Val Val Pro Phe Asn Gln Ile Pro
                325   330   335

Gly Asn Ser Leu Lys Asn
                340

<210> 140

Met Arg Ser Ile Arg Lys Arg Trp Thr Ile Cys Thr Ile Ser Leu Leu
1   5   10   15

Leu Ile Phe Tyr Lys Thr Lys Glu Ile Ala Arg Thr Glu Glu His Gln
            20   25   30

Glu Thr Gln Leu Ile Gly Asp Gly Glu Leu Ser Leu Ser Arg Ser Leu
            35   40   45

Val Asn Ser Ser Asp Lys Ile Ile Arg Lys Ala Gly Ser Ser Ile Phe
        50   55   60

Gln His Asn Val Glu Gly Trp Lys Ile Asn Ser Ser Leu Val Leu Glu
65   70   75   80

Ile Arg Lys Asn Ile Leu Arg Phe Leu Asp Ala Glu Arg Asp Val Ser
                85   90   95

Val Val Lys Ser Ser Phe Lys Pro Gly Asp Val Ile His Tyr Val Leu
                100   105   110

Asp Arg Arg Arg Thr Leu Asn Ile Ser His Asp Leu His Ser Leu Leu
            115   120   125

Pro Glu Val Ser Pro Met Lys Asn Arg Arg Phe Lys Thr Cys Ala Val
        130   135   140

Val Gly Asn Ser Gly Ile Leu Leu Asp Ser Glu Cys Gly Lys Glu Ile
145   150   155   160

Asp Ser His Asn Phe Val Ile Arg Cys Asn Leu Ala Pro Val Val Glu
                165   170   175

Phe Ala Ala Asp Val Gly Thr Lys Ser Asp Phe Ile Thr Met Asn Pro
                180   185   190

Ser Val Val Gln Arg Ala Phe Gly Gly Phe Arg Asn Glu Ser Asp Arg
        195   200   205

Glu Lys Phe Val His Arg Leu Ser Met Leu Asn Asp Ser Val Leu Trp
        210   215   220

Ile Pro Ala Phe Met Val Lys Gly Gly Glu Lys His Val Glu Trp Val
225   230   235   240

Asn Ala Leu Ile Leu Lys Asn Lys Leu Lys Val Arg Thr Ala Tyr Pro
                245   250   255

Ser Leu Arg Leu Ile His Ala Val Arg Gly Tyr Trp Leu Thr Asn Lys
                260   265   270

Val Pro Ile Lys Arg Pro Ser Thr Gly Leu Leu Met Tyr Thr Leu Ala
        275   280   285

Thr Arg Phe Cys Asp Glu Ile His Leu Tyr Gly Phe Trp Pro Phe Pro
        290   295   300

Lys Asp Leu Asn Gly Lys Ala Val Lys Tyr His Tyr Tyr Asp Asp Leu
305   310   315   320

Lys Tyr Arg Tyr Phe Ser Asn Ala Ser Pro His Arg Met Pro Leu Glu
                325   330   335

Phe Lys Thr Leu Asn Val Leu His Asn Arg Gly Ala Leu Lys Leu Thr
                340   345   350

Thr Gly Lys Cys Val Lys Gln
        355

<210> 141
<211> 218
<212> PRT
<213> Homo sapiens

<300>
<308> Swissprot/Q15907
<309> 1998-07-15
<313> (1)..(218)

<400> 141

```
Met Gly Thr Arg Asp Asp Glu Tyr Asp Tyr Leu Phe Lys Val Val Leu
1           5               10              15

Ile Gly Asp Ser Gly Val Gly Lys Ser Asn Leu Leu Ser Arg Phe Thr
        20              25              30

Arg Asn Glu Phe Asn Leu Glu Ser Lys Ser Thr Ile Gly Val Glu Phe
        35              40              45

Ala Thr Arg Ser Ile Gln Val Asp Gly Lys Thr Ile Lys Ala Gln Ile
    50              55              60

Trp Asp Thr Ala Gly Gln Glu Arg Tyr Arg Ala Ile Thr Ser Ala Tyr
65              70              75              80

Tyr Arg Gly Ala Val Gly Ala Leu Leu Val Tyr Asp Ile Ala Lys His
            85              90              95

Leu Thr Tyr Glu Asn Val Glu Arg Trp Leu Lys Glu Leu Arg Asp His
        100             105             110

Ala Asp Ser Asn Ile Val Ile Met Leu Val Gly Asn Lys Ser Asp Leu
    115             120             125

Arg His Leu Arg Ala Val Pro Thr Asp Glu Ala Arg Ala Phe Ala Glu
    130             135             140

Lys Asn Asn Leu Ser Phe Ile Glu Thr Ser Ala Leu Asp Ser Thr Asn
145             150             155             160

Val Glu Glu Ala Phe Lys Asn Ile Leu Thr Glu Ile Tyr Arg Ile Val
            165             170             175

Ser Gln Lys Gln Ile Ala Asp Arg Ala Ala His Asp Glu Ser Pro Gly
        180             185             190

Asn Asn Val Val Asp Ile Ser Val Pro Pro Thr Thr Asp Gly Gln Lys
        195             200             205

Pro Asn Lys Leu Gln Cys Cys Gln Asn Leu
210             215
```